CORPORATION OF GLASGOW

REPORT

OF THE

MEDICAL OFFICER OF HEALTH
CITY OF GLASGOW

1927

Ordered by the Committee on Health to be printed

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PREFACE

This Report follows the lines of its predecessors, as it is important to preserve continuity of record even in matters of detail. The data thus collected from year to year reveal the extent to which certain diseases, which formerly exacted most administrative attention, have now become minor problems. In these days, the affections for which the Local Authority is responsible, which most influence the vital statistics of the City, and which cause recurring embarrassment in the provision of hospital accommodation every winter, are pneumonia, measles, and whooping cough. Special investigations have been made into the two first-named diseases. The hospital problem created by their prevalence during the year, associated with an unusually high incidence of diphtheria and the necessity for extra hospital beds which had to be provided by the diversion of accommodation normally allotted to tuberculosis and child welfare, are fully described in the Report. The difficulties encountered were notably ameliorated by the willing and prompt co-operation of the officials of the Poor Law Authority in placing beds at the disposal of the Department at a critical period of the year.

Despite these major disturbances, which were felt unusually early in the latter quarter of the year, and which affected adversely the older and very young members of the population, the general death-rate, *i.e.*, 13·7 per 1,000 of the population, was the same as for 1923—the lowest recorded for the City.

In addition to the statistical data, which enable the movements of disease in the City and its various districts to be ascertained, and the administrative results of the operations of the various statutory enactments to be gauged from year to year, special sections have been introduced dealing with such aspects of public health as overcrowding, the rehousing of tenants under slum clearance schemes, preliminary data on cancer incidence, results of ultra-violet ray treatment of patients suffering from tuberculosis and rickets at the various hospitals and clinics, a study of puerperal fever at Belvidere Hospital, and the results of a special inquiry into the incidence of the non-pulmonary forms of tuberculosis.

It has been possible to publish the Report much earlier this year than usual, largely owing to the energetic assistance of Mr. William M'Kean, Assistant Secretary, who has been responsible for the preparation of a large amount of the general text and the collation of other information, and also to Mr. J. C. Ritchie in the preparation of the statistical data.

A. S. M. MACGREGOR,
Medical Officer of Health.

PUBLIC HEALTH DEPARTMENT,
GLASGOW, 16*th May*, 1928.

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REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR

1927

PART I

SECTION I.

POPULATION, &c.

The annual estimate of the population of the City is based on a return supplied by the City Assessor of the inhabited houses at Whitsunday of each year, and the population of institutions as ascertained by a special Census taken in June. The population thus calculated is 1,130,675, which is the figure on which the vital statistics given in this Report are based. This represents an increase of 9,129 on the estimated population of the preceding year for the City, including the population added at 15th May of last year.

Estimates of population between Census periods are becoming matters of difficulty. The method found most reliable and adopted in Glasgow is to base the yearly estimate on the number of occupied houses, and on the average number of inmates per house as ascertained at the preceding Census. It is more than likely that this latter figure has altered owing to the housing situation. A tendency towards reduction in the average number of inmates per house was observed in the years preceding the 1921 Census, and was fully discussed in the Annual Report for that year. It will not be possible to obtain an accurate figure until the next Census is taken, when the full effect of the erection of new houses, and the position as to overcrowding becomes fully disclosed. The factor of 4·45 as the average number of persons per house based on the last Census is, therefore, again employed without attempt at adjustment.

It will be observed that the figure thus calculated (9,129) as representing the increase of population is a little larger than the natural increase, *i.e.*, the excess of births over deaths. As the births numbered 23,578, and the deaths 15,439, the natural increase of population was 8,139, the lowest since last Census. The figures are as follows:—

Year.	Births.	Deaths.	Excess.
1921,	29,712	15,625	14,087
1922,	28,298	17,850	10,448
1923,	26,710	14,875	11,835
1924,	25,330	16,868	8,462
1925,	25,416	15,336	10,080
1926,	24,541	15,731	8,810
1927,	23,578	15,439	8,139

The Registrar-General estimates the population of the City at 1,049,000.

Ward Populations.—In the Annual Report for last year, information was given as to the population in the areas then added to the City. The respective areas were incorporated in the contiguous Municipal Wards, no new Wards being created. The populations of the Wards as now constituted are given in Table I in the Appendix, and the following table indicates the more important changes during the year:—

Increases.		Decreases.	
Shettleston and Tollcross,	1,628	Calton,	342
Parkhead,	1,383	Mile-End,	204
Springburn,	846	Blythswood,	285
Ruchill,	1.664	Anderston,	252
Kelvinside,	826	Sandyford,	1,836
Whiteinch,	4,137	Maryhill,	1,002
Fairfield,	1,090	Gorbals,	782
Cathcart,	1,027	Kingston,	311

The differences are somewhat numerous, and are considerable in some instances because of the number of families transferred or removed to new homes in housing schemes which are situated mostly in Wards on the periphery of the City. This is very definitely shown in the case of Whiteinch Ward, in which is situated Knightswood Housing Scheme, the largest in the City. The population transferred in this instance is drawn from the City generally, as is also the case with Shettleston, Fairfield, &c., as distinct from the increased populations of Parkhead, Springburn, and Ruchill Wards, where rehousing schemes have been built in connection with slum clearances.

The decreases were more or less all due to slum clearances, with the exception of Maryhill Ward, where the difference is accounted for by the reduced institutional population.

Institutional Population.—There were 32,791 persons resident in institutions as at 30th June, or 1,079 fewer than the number for the preceding year. This decrease is explained by the reduction in the number of soldiers billeted in the Barracks, there being only 968 in 1927, compared with 1,973 in 1926. Other decreases to be noted are 218 in Provan Ward, where Barlinnie Prison had almost 200 fewer occupants, and 136 in Springburn, which was mainly caused by a reduction of the inmates in Stobhill Hospital.

Density.—The density of the City, 38 persons per acre, remains the same; this compares with a density of about 60, around which it has fluctuated since the beginning of the present century. Areas added to the City last year were equal to more than 50 per cent. of the area of the former City, while the population inhabiting the districts numbered less than 20,000.

The highest Ward density is 222 in Woodside, followed by 204 in Gorbals. These densities are largely due to the fact that these Wards are almost wholly occupied by tenement property. The density of Sandyford Ward has been reduced from 160 in 1926 to 148, with the transference of a considerable number of persons from slum properties dealt with under the Housing Acts.

Inhabited and Empty Houses. — In Appendix Table I are shown the numbers of inhabited and empty houses in each

Municipal Ward as at Whitsunday, 1927. The changes there shown are largely the result of operations in connection with slum clearance and rehousing schemes. For instance, the decrease of 406 in Sandyford is associated with the demolition of houses, which also accounts for decreases of 167 in Gorbals and 75 in Anderston.

The total increase for the City as a whole was 2,308, comprising 914 in Whiteinch Ward, which contains Knightswood Housing Scheme and a private scheme, 300 in Shettleston and Tollcross, in Govanhill 205, and in Fairfield 233, where other Corporation schemes are situated. Rehousing of those dispossessed under slum clearance schemes is responsible for increases of 300 in Parkhead, 211 in Springburn, 363 in Ruchill, and 132 in Pollokshaws. The increase of 249 in Cathcart is due to private building.

The following summary contains the figures of unoccupied houses during recent years, as compared with the pre-war year 1913, when there were 18,710 empty houses:—

NUMBER OF UNOCCUPIED HOUSES CLASSIFIED ACCORDING TO NUMBER OF APARTMENTS.

									1926		
	1913	1919	1920	1921	1922	1923	1924	1925	Old City	Extended City	1927
One apartment, -	*4,169*	319	120	33	27	43	93	91	79	81	48
Two apartments, -	*9,762*	181	72	17	27	55	82	76	61	62	40
Three ,, -	*2,731*	21	9	9	10	32	27	28	43	45	54
Four ,, -	*954*	13	15	8	20	32	42	21	35	36	40
Five ,, and up,	*1,094*	103	75	76	116	163	205	150	190	197	277
	18.710	637	291	143	200	325	449	366	408	421	459

The largest number of empty houses occurs in Kelvinside, where there were 78, only 8 of which were of four apartments or less, while there were 35 in Park Ward, and 34 in Pollokshields, mostly of the larger type. Of the total empty houses, 60 per cent. contain five or more apartments.

Linings Granted by Dean of Guild Court.—A summary of the linings granted by the Dean of Guild Court since 1915 is given in Table III in the Appendix. Although linings were granted in 1927 for only 5,183 houses, compared with 6,796 in the preceding year, there was a considerable increase in the number granted for four-apartment houses. This is probably due to the large number of houses being erected in private house-building schemes. Since August, 1918, there have been granted linings for the erection of 22,389 houses.

ABSTRACT OF METEOROLOGICAL OBSERVATIONS.

Extensive variations in weather occurred. The storm of January caused much damage to property and gave rise to numerous complaints of leaking roofs and defective chimneys. The heavy rains of July caused serious flooding of many basement houses. The sudden cold autumn weather caused an early incidence of respiratory disease. The weather, generally, was characterised by an unusually heavy rainfall as shown by the records taken by the Parks Department in Springburn Public Park, and which appear in Table IV of the Appendix. The rainfall was heavier than in any of the previous years, for which records are included in the Table, the total being 49·13 inches, which compares with 45·91 during 1926 and 30·03 in 1919. It was heaviest during August, when there were 6·73 inches, compared with 3·80 in the same month in 1926. The lowest monthly fall was less than one inch during December. The number of days on which rain fell was 245, which was exceeded on three occasions during the previous ten years.

There were considerable periods of bright sunshine in March and April, which had respectively 86 and 151 hours, compared with 47 and 90 hours in the respective months of the preceding year. The total during November was also higher. During the summer months the records are comparatively low. The total for the year, however, 1,130 hours, is slightly above the average of the previous ten years.

The average temperature, 46·8°, is slightly above the average 46·1° for the years 1917-26. The maximum was 77°, which occurred in May, and the minimum, 20°, in December.

BLIND PERSONS ACT.

During the year 1927, 90 applications for admission to the Royal Blind Asylum for technical training were received. These were dealt with under the procedure outlined in the Report of last year. Of these applicants, 67 were considered to be blind persons, and 23 were rejected. Accepted applicants from Glasgow included 30 men and 12 women; from other areas under the Joint-Committee there were 18 men and 7 women.

The age distribution of the accepted candidates was as follows:—

Age,	15-20	-25	-30	-35	-40	-45	Total.
Males,	16	10	6	8	4	4	48
Females,	8	3	2	3	1	2	19

The causes of blindness in these cases are indicated below:—

I.—Congenital Conditions, including Cataract—		
Congenital Cataract, ...	6	
Albinism, ...	1	
Retinitis Pigmentosa, ...	2	
Malformation, ...	1	
		10
II.—Infections—		
Syphilis, ...	16	
Gonorrhœa, ...	7	
Measles, ...	4	
Cerebro-spinal Fever, ...	1	
Tuberculosis, ...	1	
		29
III.—Injury, ...		8
IV.—Glaucoma, ...		2
V.—Refractive Errors, ...		9
VI.—Cause Unknown, ...		9
		67

The following form, in use for medical examination of applicants, has been drawn up and has proved serviceable :—

Abridged Form to show particulars of
EXAMINATION OF CANDIDATES FOR INDUSTRIAL TRAINING AS BLIND PERSONS.

"To know whether each person (1) is so blind as to be unable to perform any work for which eyesight is essential ; (2) is capable (mentally and physically) of receiving and being benefited by such education."

Name..Age......... Address..

EXAMINATION OF EYES.

Primary cause of blindness.. Age at onset of primary cause......... Age at onset of blindness.........

History of blindness in family..

History of previous Ophthalmic Institutional Treatment, with account of operations, if any...... ....

....

Result of Wassermann Test (if taken).............................. ....

right left

Present condition of eyes (details)...................... . . ..

Visual Acuity—(*a*) Unaided...................... ....

(*b*) With correcting glasses... ......

Field of Vision, *e.g.*, Normal or much contracted............. ....

Prognosis as to eyesight ....

Treatment recommended (Medical or Surgical)...

Is the Candidate blind within the meaning of the Act?...

(*Yes, No, or Doubtful*)

GENERAL EXAMINATION.

Mental Condition—Condition of central nervous system (including occurrence of fits)

... .

Physical Condition—(With special reference to chest and hands) ....

....

Is the Candidate mentally and physically suitable for Industrial Training ?............

Date.................................... Signature...
School Medical Officer.

Date... .... Signature.. ....
Signed on behalf of the Education Authority of

....

HEALTH PROPAGANDA.

Central Health Lectures.—During the winter 1927-28, the Corporation again co-operated with the Glasgow Burgh Insurance Committee, the Scottish Committee, and the Glasgow Branch of the British Social Hygiene Council in the organisation of lectures on health subjects of interest to the public generally. The principal course was given in the M'Lellan Galleries, and on each occasion the opportunity was taken of showing instructive films on health matters. The following are the particulars of the course, at which 5,600 people attended:—

Date.	Subject.	Lecturer.
Oct. 17.	"The Control and Notification of Venereal Disease," - -	Dr. W. G. Clark, Assistant M.O.H.
Nov. 21.	"The Educational Aspect of the Control of Venereal Disease,"	Professor Winifred Cullis.
Dec. 13.	"Food Fads," - - - -	Professor E. P. Cathcart.
Jan. 17.	"The Biology of Health," - -	Professor J. Arthur Thomson.
Feb. 7.	"The Ravages of Rheumatism," -	Dr. George A. Allan.
Mar. 6.	"Teeth and Health," - - -	H. Gordon Campbell, Esq.

District Health Lectures. — In addition to the above, three series of district health lectures were given by members of the staff. These also were illustrated by films and slides:—

In Shettleston Public Hall.

Date.	Subject.	Lecturer.
Jan. 10.	"Modern Health Problems," -	Dr. A. S. M. Macgregor.
Jan. 24.	"The White Plague and its Conquest," - - - - -	Dr. J. A. Wilson.
Jan. 31.	"Disease-Spreading Insects," -	Dr. W. Gunn.
	Total Attendance, - - -	*850.*

In Woodside Public Hall.

Feb. 1.	"Diseases Treated by Light," -	Dr. Robert J. Peters.
Feb. 15.	"Common Diseases and their Consequences," - . - -	Dr. A. Davidson.
Feb. 29.	"Venereal Diseases: Their Serious Effects and Treatment," -	Dr. W. G. Clark.
	Total Attendance, - - -	*1,050.*

In Govan Public Hall.

Mar. 13.	"What the Public should know about Venereal Diseases," -	Dr. W. G. Clark.
Mar. 20.	"The Causes and Prevention of Common Ailments," - -	Dr. James L. Halliday.
Mar. 27.	"Health and Growth of the Child,"	Dr. Mary P. M'Cunn.
	Total Attendance, - - -	*1,100.*

In addition to these lectures carried on under the auspices of the Committee, members of the staff, on about fifty occasions during the year, delivered lectures to a variety of societies and associations on health subjects. Certain members of the staff also took part in a refresher course of lectures and demonstrations to Health Visitors. A series of talks was given during the winter 1927-28 at meetings of the Govan Fathers' Child Welfare Council.

LEGISLATION.

During the year the following Acts of Parliament and Regulations dealing directly with Public Health, or having a bearing thereon came into operation:—

ACTS OF PARLIAMENT.

(1) Midwives and Maternity Homes (Scotland) Act, 1927—

> Provides for the registration and inspection of maternity homes, and amends Section I of the Midwives (Scotland) Act, 1915, regarding attendance on a woman in childbirth.

(2) Sale of Food and Drugs Act, 1927—

> Amends Section 6 of the Act of 1875, and any regulations made under the Public Health (Regulations as to Food) Act, 1907, so as to give effect to the recommendations of the Departmental Committee on the presence of preservatives and colouring matters in food.

REGULATIONS, CIRCULARS, AND MEMORANDA.

Maternity and Child Welfare—

Circular No. 7, dated 22nd March, 1927: Maternity and Child Welfare Scheme, &c.: Refresher Course for Midwives.

Circular No. 8, dated 6th August, 1927: Maternity and Child Welfare Scheme, &c.: Refresher Course for Health Visitors.

Circular No. 10, dated 29th July, 1927: Notification of Puerperal Fever.

Infectious Diseases—

Circular 761, dated 19th January, 1927: Influenza.

Memo. 2/Med.: Memorandum on Influenza (Revised Edition).

Order No. 54/S.7, dated 4th February, 1927: Public Health (Infective Jaundice) Regulations (Scotland).

Order No. 270/S.15, dated 25th March, 1927: Public Health (Chickenpox) Regulations (Scotland).

Food—

Order, Draft, dated 25th April, 1927: Public Health (Preservatives, &c., in Food) Regulations (Scotland), 1927.

Circular No. 8, Foods, dated 3rd May, 1927: Public Health (Preservatives, &c., in Food) Amendment Regulations (Scotland), 1927.

Order No. 623/S.35, dated 1st July, 1927: Public Health (Preservatives, &c., in Food) Amendment Regulations (Scotland), 1927.

Circular No. 9, dated 15th July, 1927: Public Health (Preservatives, &c., in Food) Amendment Regulations (Scotland), 1927.

Milk—

Circular No. 6, Foods, dated 13th April, 1927: Infectious Disease at Dairies.

Circular No. 7, Foods, dated 15th April, 1927: Sale of Food and Drugs Acts, Sampling of Bottled Milk.

Drugs—

Order No. 486: Therapeutic Substances Regulations, 1927, dated 31st May, 1927.

Factories and Workshops—

Order No. 191, dated 26th February, 1927: Bakehouses Welfare Order, 1927.

SECTION II.

VITAL STATISTICS.

In order to preserve the comparison with previous years, the vital statistics of the areas added to the City in 1926 were not incorporated in the figures for causes and Wards, &c., but were added, where necessary, to complete the tables in the Appendices. In the following summary the figures for the extended City for 1927 are compared with those of the two preceding years for the old City. Except with regard to area and density, any comparisons will not be affected very much as the population added to the City was less than 20,000 persons.

SUMMARY.

	1925	1926	1927 (Extended City).
Population, ...	1,097,841	1,101,622	1,130,675
Acreage, ...	19,183	19,183	29,511
Persons per acre, ...	57	57	38
Number of Inhabited Houses, ...	240,772	241,519	247,519
Deaths—Number registered,	15.882	16,156	16,410
,, After correction for Transfers,	15,336	15,628	15,439
Births—Number registered, ...	25,832	24,857	24,020
,, After correction, ...	25,416	24,345	23,578
Death-rate per 1,000 living—All causes, ...	13·97	14·19	13·66
Birth-rate per 1,000 living, ...	23·15	22·10	20·85
Deaths under One Year—After correction, ...	2,591	2,532	2,527
Deaths under One Year—Per 1,000 births, ...	102	104	107

BIRTHS.

The births during the year numbered 23,578, compared with 24,345 in 1926. On the estimated population and corrected births, the birth-rate is 20·85 per 1,000 persons, compared with 22·10 in 1926 and 23·15 in 1925. For these years the Registrar-General estimates the birth-rate at 22·4, 23·5, and 24·6 respectively.

The rate as corrected is the lowest rate ever recorded, being 1·25 less than the rate for last year, which was slightly lower than the minimum reached during the war years. The decrease in the death-rate being only 0·5, the natural increase of the population during 1927 was reduced to 7·2, compared with 7·9 per 1,000 of the population for the preceding year. This aspect of the vital statistics of the City is of considerable importance, and the chart which faces has been prepared to show the course of the birth-rate and death-rate since the beginning of the present century.

The rates of natural increase for Edinburgh, Dundee, and Aberdeen are added for comparison, and these show that this reduction is common to these towns. Whereas the natural increase of the population of Glasgow was between 10 and 11 per 1,000 in pre-war years it is now less than 8, while Edinburgh, with a pre-war rate of about 5·5, has only fallen very slightly to about 5.

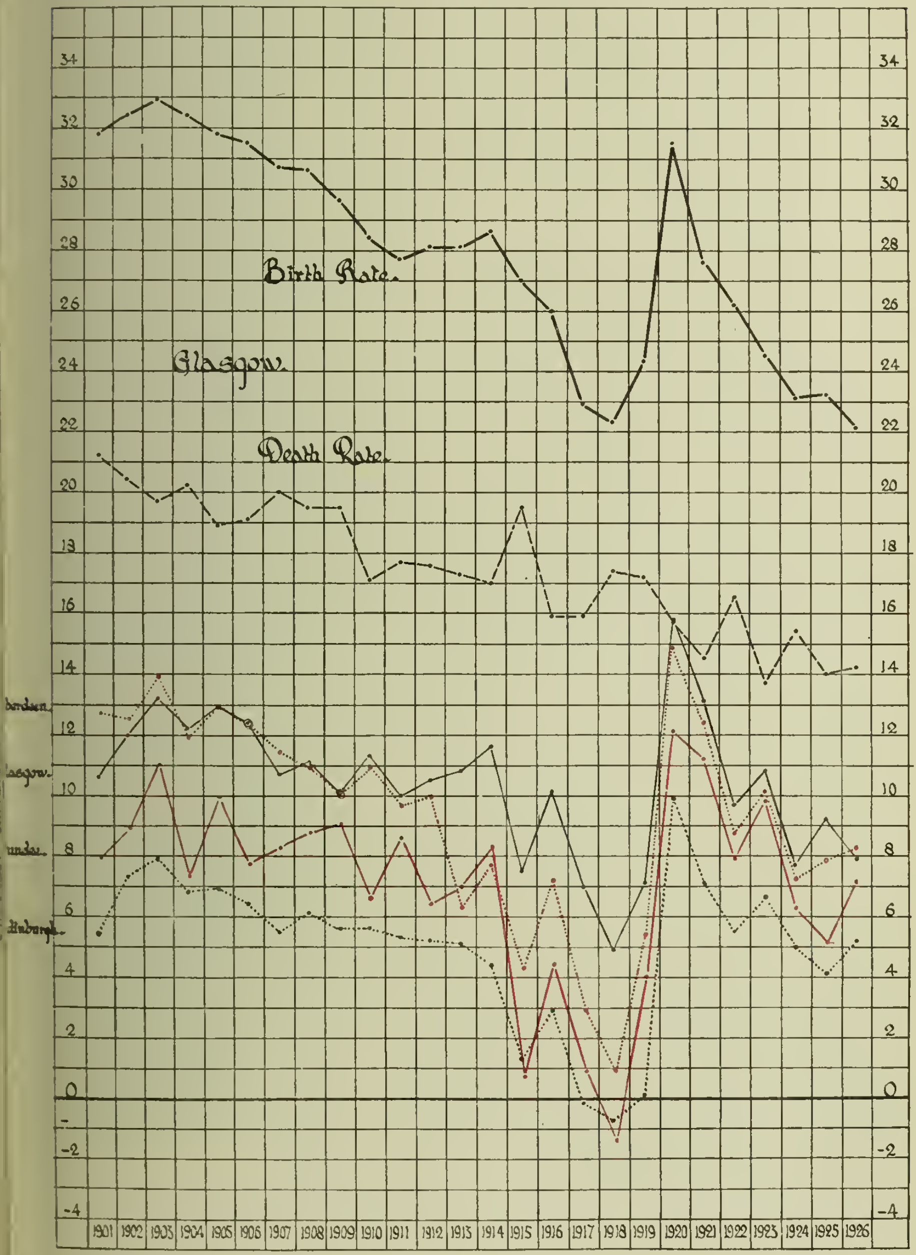
In common with Glasgow, the birth-rate in other large towns has been further reduced during 1927, Liverpool only having a rate in excess of Glasgow. In Edinburgh, Manchester, and Birmingham the rate has fallen to under 18 per 1,000 of the population.

The birth-rates in the Municipal Wards of the City are shown in Table V in the Appendix. The highest rate is 30·0 in Mile-End, followed by 27·9 in the contiguous Ward of Calton, while rates of over 27·0 were also recorded in Dalmarnock, Exchange, Cowcaddens, and Gorbals. These rates are all lower than those of the preceding year. The lowest birth-rate was 9·0 in Kelvinside, which was followed by Camphill with 10·1, while in four other Wards rates of less than 12·0 were noted.

The following information from the Registrar-General's returns shows the birth-rates for Glasgow and Scotland since 1871:—

	Glasgow.	Scotland		Glasgow.	Scotland.
1871-1880, ...	36·6	34·9	1922, ...	27·3	23·5
1881-1890, ...	36·5	32·4	1923, ...	25·6	22·8
1891-1900, ...	33·7	30·3	1924, ...	24·1	21·9
1901-1910, ...	31·2	28·4	1925, ...	24·6	21·3
1911-1915, ...	27·4	25·4	1926, ...	23·5	20·9
1916-1920, ...	24·1	22·9	1927, ...	22·4	19·8
1921, ...	28·7	25·2			

CHART SHOWING BIRTH-RATE AND DEATH-RATE FOR GLASGOW, AND NATURAL INCREASE COMPARED WITH EDINBURGH, DUNDEE, AND ABERDEEN.



On the basis of local returns, the following comparison is made of the rates for several years in Glasgow and other towns:—

	1925	1926	1927
Glasgow, ...	**23·2**	**22·1**	**20·9**
Edinburgh, ...	18·6	18·7	17·9
Dundee, ...	21·8	21·9	20·6
Aberdeen, ...	21·6	21·6	20·1
London, ...	17·9	17·1	16·1
Liverpool.	23·3	23·3	22·2
Manchester, ...	18·6	18·3	17·1
Birmingham.	18·8	18·7	17·8

ILLEGITIMATE BIRTHS.

During the year there were 1,446 births registered as illegitimate, which is equal to 6·1 per cent. of the total births, as compared with 6·0 per cent. in 1926. This rate appears to have become stationary. Most of the Wards are around the average for the City, as is shown in Appendix Table V.

A more accurate comparison of the legitimate and illegitimate birth-rates is obtained when the calculation is based on the number of females of child-bearing ages; the former on married women of 15 to 44 years of age, and the latter on the unmarried women and widows of the same ages. This is given in the following table:—

Glasgow.—Birth-rates, distinguishing Legitimate and Illegitimate, in certain years from 1871.

(Based on figures of Registrar-General).

Year	Number of Legitimate Births	Rate per 1,000 Married Women 15-44 years	Number of Illegitimate Births	Rate per 1,000 Unmarried Women and Widows 15-44 years
1871	17,118	298	1,749	27
1881	17,605	293	1,501	22
1891	18.304	283	1,553	21
1901	22,676	260	1,530	14
1911	19,966	229	1.603	14
1921	27,790	238	1,922	13
1922	26,565	227	1,733	12
1923	25,209	216	1,493	10
1924	23,844	204	1,486	10
1925	23,931	205	1,491	10
1926 (Old City)	22.895	196	1,450	10
1927	22,128	186	1,453	10

MARRIAGES.

The marriage rates per 1,000 persons living in Glasgow since 1871 are given in the following table. Except for the years following the war, when the rates were comparatively heavy, the average over the whole period has remained fairly constant, around 9 per 1,000.

Glasgow.—Marriages per 1,000 Persons living.

1871-1880, ...	9·1	1920,	12·4
1881-1890, ...	9·3	1921,	10·7
1891-1900, ...	9·4	1922,	9·1
1901-1910, ...	8·8	1923,	9·6
1911-1915, ...	9·8	1924,	8·4
1916,	8·6	1925,	8·5
1917,	8·3	1926,	8·3
1918,	9·4	1927,	8·5
1919,	9·0		

DEATHS.

The total number of deaths registered during the year was 16,410, which becomes 16,439 after adjustment for inward and outward transfers. The death-rate is thus 13·7 per 1,000, compared with 14·2 for the previous year, and 14·0 for 1925. The death-rates for Municipal Wards are given in Appendix Table VIII. This year a change has been made in respect that the inward transfer deaths, *i.e.*, deaths occurring outwith the City, have been allocated to their respective Wards in which their home address was situated. The total of these for 1927 was 569, and all but 44 have been distributed throughout the Wards. This procedure has had the effect of somewhat increasing the various Ward rates.

This change of procedure is probably the chief reason for the increase of the death-rates for Blythswood and Exchange Wards, the former being 18·7, compared with 16·0 in 1926, and the latter 18·2, compared with 17·6. The next highest rate was 17·2 in Calton, while Anderston, Gorbals, and Kingston had rates in excess of 16. The lowest rate was 8·8 in Cathcart, which was followed by 9·5 in Whiteinch.

According to the Registrar-General's returns, the rates for Glasgow since 1881 have been as follows:—

GLASGOW.—ALL CAUSES—DEATH-RATE PER 1,000 LIVING.

1881-1890,	24·22
1891-1900,	21·53
1901-1910,	19·56
1911-1915,	17·04
1916,	15·16
1917,	15·10
1918,	16·50
1919,	16·36
1920,	15·30
1921,	15·10
1922,	17·20
1923,	14·28
1924.	16·10
1925,	14·83
1926,	15·09
1927,	14·63

The following is a comparison of death-rates based on local returns of several large towns in Scotland and England:—

GLASGOW AND SEVERAL TOWNS—DEATH-RATE PER 1,000 LIVING.

	1924	1925	1926	1927
Glasgow,	**15·4**	**14·0**	**14·2**	**13·7**
Edinburgh,	15·0	14·5	13·5	14·3
Dundee,	16·4	16·7	14·8	17·1
Aberdeen,	14·7	13·8	13·4	13·8
London,	12·2	11·9	11·6	12·1
Liverpool,	13·6	14·1	13·7	13·9
Manchester,	14·0	14·4	13·2	13·8
Birmingham,	11·6	11·7	11·3	11·6

Transfer Deaths.—The deaths on which the above rates for Glasgow are calculated include those of persons formerly resident in Glasgow, but dying in institutions or elsewhere outwith the City. On the other hand, those dying within, but with home addresses outside, are excluded. The "inward transfers" numbered 569 during 1927, compared with 820 and 786 for the two preceding years, while the "outward transfers" numbered 1,540, compared with 1,348 and 1,332. The causes of deaths in both these groups are given in Appendix Table No. VII.

CLASSIFICATION OF DEATHS.

In order that comparisons with other large towns may be made, it has been the practice to adopt the classification of deaths as laid down in the International List of the Causes of Death. The third revision 1920, was not published until 1926.

At the same time an endeavour has been made to attain accuracy, as far as possible, by inquiry into any doubtful certifications and these, when known, have been referred to the Registrar-General for Scotland from time to time, especially in connection with deaths of women within 28 days of confinement.

The short classification for comparison of the vital statistics is that adopted in Tables VIII, IX, &c., in the Appendix. The following statement shows the changes which this alteration has involved.

Causes in *former* classification not now shown :—

Croup, ...	Included in "Other Respiratory Diseases."
Septicæmia, ...	Included in "Other Defined Diseases."
Other Septic Diseases, ...	Do.
Alcoholism, ...	Do.
Diarrhœa (+ 2 years), ...	Do.
Other Digestive Diseases, ...	Do.

Causes in *new* classification now adopted :—

Encephalitis Lethargica, ...	Formerly included in "Other Nervous Diseases."
Diabetes, ...	Formerly included in "All Other Causes."
Arterio-Sclerosis, ...	Do. "Other Circulatory Diseases."
Ulcer of Stomach or Duodenum, ...	Formerly Ulcer of Stomach was included in "Other Digestive Diseases." Ulcer of Duodenum was included in "Diarrhœa and Enteritis."

The two former headings "Unknown" and "All Other Causes" are now shown as "Other Defined Diseases" and "Causes Ill-Defined or Unknown."

The Registrar-General for Scotland, although basing his classification on the International List departs from it in some essential details, giving preference to certain causes of death which, in his opinion, represent more accurately the mortality from these causes.

CAUSES OF DEATH.

The principal causes of death are summarised as follows:—

SUMMARY OF DEATH-RATES PER MILLION FROM PRINCIPAL CAUSES.

	1925	1926	1927
General Diseases—			
(*a*) Infectious, ...	1,245	1,233	1,127*
(*b*) Tuberculous—			
(1) Phthisis, ...	922	861	838
(2) Others, ...	362	311	301
(*c*) Malignant (cancer, &c.),	1,261	1,264	1,328
Diseases of the nervous system,	1,451	1,498	1,407
Diseases of the circulatory system,	2,023	2,092	2,047
Diseases of respiration, ...	2,517	2,474	2,364
Congenital defects and malformations (including premature births),	775	811	773
Violence, ...	563	586	629
All other causes, ...	2,850	3,056	2,841
All causes, ...	13,969	14,186	13,655

* Includes Encephalitis Lethargica, previously grouped with "Diseases of the Nervous System, but excludes Diarrhœa (over 2 years) for the first time.

Other group headings shown in previous years have been dropped in consequence of the introduction of the new classification list.

In the foregoing summary the death-rate from infectious diseases now includes the rate for deaths from encephalitis lethargica, which was previously grouped with diseases of the nervous system, but excluded diarrhœa under two years. Making adjustments for these changes, the rate becomes 1,402, in place of 1,127, and compares with 1,233 for the preceding year. This increase was mainly accounted for by the higher mortality from whooping-cough, which was 322 per million, compared with 165 in 1926. Although there was a larger number of cases registered in the typhoid group of diseases the mortality from enteric fever was only 9, compared with 15 for the preceding year. This is the lowest rate ever recorded.

The mortality from scarlet fever was only 39 in comparison with 81, while diphtheria, despite its increased prevalence, was 100, or 20 less than the rate for 1926. The mortality from measles was also lower.

Influenza, which attains considerable virulence under certain conditions, was not prevalent during 1927, when the rate was 180 per million, compared with 350 in 1926.

The sub-group septic diseases, which was formerly shown under general diseases, now forms part of "other defined diseases," but is retained in the short list classification shown in Appendix Table VIII. The death-rate in 1927 was only 26 per million, compared with 45 for the preceding year, and is the lowest recorded, with the exception of the war years 1917 and 1918.

Tuberculous diseases are dealt with in Section V. The death-rates from pulmonary and non-pulmonary forms were again the lowest on record.

The cancer death-rate, which had remained fairly steady for a year or two, now shows another definite increase, the rate for the present year being 1,328, compared with 1,264 for the preceding year, and 1,261 for 1925. Differentiation as between the better and poorer class wards is not quite so marked as formerly, but it is noteworthy that the death-rate in Pollokshaws, 2,305, is higher than any other ward, and is followed by 1,845 in Park Ward.

A relatively large increase is indicated in the death-rate from rheumatic fever at 67 per million, compared with 46 for 1926, but, as stated in the previous Report, the problem here is more one of sickness and disablement. Diseases of the nervous system as a group have been less fatal than in preceding years, although cerebral hæmorrhage, as one section of this group, is shown in Appendix Table VIII to have gone up quite markedly in the past three years. This may be due to a certain extent to the operation of the new rules for classification of deaths. This explanation may also be the reason for the apparent increase in the death-rate from heart-diseases, which was 1,638 per million, compared with 1,394 in 1926, although the group death-rate for circulatory diseases is rather lower.

In the respiratory group there has been a definite tendency, since registration of death began, to certify death as due to pneumonia in preference to bronchitis, despite the fact that the population contains a larger proportion of people of older ages when it might be expected that chronic lung diseases would be more likely to develop. The total death-rate for all diseases under the respiratory group has been declining during recent years as shown in the summary given above.

Deaths due to congenital defects and malformations vary more definitely with the number of births, but the rates per million of the population are here included to complete the total from all causes.

Of the more important items included in the group "other defined causes," appendicitis would appear to be becoming less fatal; cirrhosis of the liver maintains the low rate of the preceding year; and acute nephritis is also lower.

The death-rate from puerperal fever is also lower. This is dealt with in the next section of this Report.

Deaths from violent causes, including suicides, number 711, representing a death-rate of 629, which compares with 586 in 1926 and 563 in 1925. This increased fatality would appear to be general throughout the country, and may be associated with the greater amount of motor traffic which has been developing rapidly during the past few years.

The number of deaths and the death-rate per million of the population are given in Appendix Table VIII.

AGE AND SEX DISTRIBUTION.

This information is given in Appendix Tables IXA and IXB. In every 1,000 deaths during 1926 there were 523 males and 477 females, as compared with 520 and 480 for the preceding year.

PROPORTION OF MALE AND FEMALE DEATHS PER 1,000.

	−1	−2	−5	−10	−15	−20	−25	−35	−45	−55	−65	−75	75+	Total
Males,	93	28	19	11	7	9	13	23	35	60	84	92	49	523
Females,	71	27	16	9	7	10	10	25	34	49	63	81	75	477

At each age-group the deaths among males exceed those among females, except at ages 15 to 20, 25 to 35, and again at ages over 75 years.

Deaths from enteric fever again show a preponderance among the males, as was the case before the war. Age and sex incidence among other infectious diseases is much the same as in former years.

Deaths from influenza occurred mainly at the extremes of life. There were 11 male deaths from encephalitis lethargica to 18 female deaths, 10 of the latter occurring at ages 25-45, while deaths from meningococcal meningitis occurred mostly at younger ages, especially among males. Deaths from pulmonary tuberculosis occur mainly in middle life, the largest number for both sexes being at ages 25-35, while tubercular meningitis, which is nearly 50 per cent. more fatal among males, occurs largely in the younger years of life, and under school age.

Cancer is one of the causes where female deaths exceed the males, and during 1927 there were 857 deaths among the former to 645 among the latter.

In view of the importance of malignant disease as a cause of death, an investigation has been made of the ages at which death occurred during the year from this cause, with reference to the particular group of organs of the body affected. The following table is introduced for the first time, and will serve as a basis of comparison in future years. The female sex is shown to be particularly prone to this disease, which attacks chiefly the breast and genital organs, disease of these parts causing 274 deaths, or nearly one-third of the total among women. In the male sex cancer of the mouth is a prominent seat of the disease. The alimentary canal in both sexes appears to be equally affected. Women are more susceptible of attack at younger ages.

Site of Lesion	-1	-2	-5	-10	-15	-20	-25	-35	-45	-55	-65	-75	75+	Total
Males														
uccal Cavity,	...	...	...	...	...	...	...	...	3	13	17	15	7	55
harynx, Œsophagus, Stomach, Liver, and Adnexa,	...	...	...	...	...	...	1	6	15	53	103	83	19	280
eritoneum, Intestines, and Rectum,	...	...	...	...	1	...	...	...	5	29	52	45	18	150
enital Organs,	...	...	...	...	...	...	...	...	...	...	...	...	...	...
reast,...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
kin, ...	...	...	...	...	...	...	...	...	1	4	3	3	2	13
ther or Unspecified Organs,	...	...	1	1	1	2	2	6	6	26	47	43	11	146
Totals, ...	...	...	1	1	2	2	3	12	30	126	222	189	57	645
Females														
uccal Cavity,	...	...	...	...	...	...	...	...	...	...	1	2	2	5
harynx, Œsophagus, Stomach, Liver, and Adnexa,	...	...	...	...	...	...	...	6	12	44	79	90	36	267
eritoneum, Intestines, and Rectum,	...	...	1	...	...	1	...	1	8	39	50	47	34	181
emale Genital Organs,	...	...	...	1	1	...	...	10	39	51	35	26	5	168
reast,...	...	...	...	...	...	...	...	4	13	21	25	30	13	106
kin, ...	...	...	...	...	...	...	...	...	...	2	2	4	7	15
ther or Unspecified Organs,	1	...	2	2	...	1	2	6	15	21	29	24	12	115
Totals, ...	1	...	3	3	1	2	2	27	87	178	221	223	109	857

Ulcer of the stomach and duodenum was the cause of 75 male deaths compared with 21 females, none of them under 20 years of age.

If allowance be made for the excess of females in the population, the deaths from rheumatic fever are probably somewhat similar in proportion, but there were 76 deaths from diabetes among females to 42 among males, all mostly at older ages.

Cerebral hæmorrhage was more fatal among males in the ratio of 561 to 453, and deaths from meningitis were more numerous among females. The male deaths from other nervous diseases were, however, considerably heavier, there being 291 to 210 females.

Heart disease among males was responsible for 934 deaths and among females 918, while there were 227 male deaths from arterio-sclerosis and only 139 female deaths, almost all of the excess of the former occurring between 65 and 75 years of age. Deaths from diseases of the respiratory system are dealt with in Section V.

Diarrhœal deaths under two years of age were more numerous among males to the extent of 50 per cent., while appendicitis was responsible for 44 male and 42 female deaths. Deaths from cirrhosis of the liver were also more numerous among males, and the same observation applies with regard to deaths from violence.

Quarterly Death-Rates.—The death-rate varies considerably throughout the year as is shown in the following statement of quarterly rates for the three years 1925-27. The rate during the third quarter has remained fairly uniform, but in 1927 the prevalence of whooping-cough during the early part of the year, and the early onset of measles and pneumonia during the last quarter of the year, were the causes of the variations recorded.

	1925.		1926.		1927.	
1st Quarter,	14·7		16·7	Measles and influenzal-pneumonia prevalent.	14·3	Whooping Cough prevalent.
2nd ,,	13·1		15·1		13·5	
3rd ,,	11·3		11·0		11·2	
4th ,,	16·7	Nov. fog and low temperature. Pneumonia and measles prevalent.	13·9		15·7	Early onset of measles and pneumonia.

Deaths in Hospitals, Nursing Homes, and other Institutions.—Details of the deaths in Glasgow institutions are given in Appendix Table X, which indicates that over 30 per cent. of the total deaths registered occurred in such institutions. Table XI shows the numbers of those who had no home address dying in several classes of institutions.

Uncertified Deaths.—The number of uncertified deaths has shown a gradual decrease over many years. During 1927 the uncertified deaths recorded numbered 25, compared with 19 during 1926. The following table shows the number of these at several age-periods. The percentage of uncertified deaths among legitimate children was 0·3 under 1 year. Among 212 illegitimate children under 1 year the percentage was 0·8, compared with 1·3 for 1926, and between 1 and 5 years there was none.

GLASGOW.—UNCERTIFIED DEATHS, 1925-1927.

	Year	1925	1926	1927
Not Certified, - -	– 1 year,	18	6	7
	+ 1 year,	22	9	18
No Medical Attendance,	– 1 year,	1	1	—
	+ 1 year,	1	1	—
Attending Dispensaries,	– 1 year,	2	2	—
	+ 1 year,	—	—	—

SECTION III.

MATERNITY AND CHILD WELFARE.

The infant mortality, 107 per 1,000 births, during 1927, was slightly higher than that of the preceding year, 104, and was adversely affected by the incidence of diseases which attack the lungs. An outbreak of pneumonia in the spring of the year caused considerable havoc among infants, while the early advent of measles in considerable volume during the later part of the year, complicated in many instances with pneumonia, was also an inimical factor. There was also a considerable number of deaths from whooping-cough among infants in the early months of the year. The effect of these incidents on child life, in particular the high prevalence of respiratory diseases in the poorer quarters of the City was fully discussed in last year's Report. It is also referred to in the Sections on Hospitals and on Respiratory Diseases.

The number of deaths of infants under one year during 1927 was 2,527, compared with 2,532 during the preceding year. The deaths under one year in each Municipal Ward of the City during 1927, with the relative rates per 1,000 births, are contained in Appendix Table XII, with a comparison of the rates during the two preceding years.

The following tables show (1) the infant death-rates in Glasgow since 1891; (2) the rates in other large towns; and (3) the death-rates among legitimate and illegitimate children per 1,000 births in each group.

Glasgow—Infant Death-rate during several Periods.

	Per 1,000		Per 1,000
Average of 10 years, 1891-1900,	149	1926, ...	104
,, 10 ,, 1901-1910,	135	1927, ...	107
,, 5 ,, 1911-1915,	134		
,, 5 ,, 1916-1920,	115		
,, 5 ,, 1921-1925,	107		

COMPARISON WITH SEVERAL LARGE TOWNS.

	1925	1926	1927
Glasgow, ...	**102**	**104**	**107**
Edinburgh, ...	96	80	80
Dundee, ...	126	103	138
Aberdeen, ...	109	96	105
London, ...	68	64	59
Liverpool, ...	99	104	94
Manchester, ...	96	87	86
Birmingham, ...	78	73	75

GLASGOW.—DEATH-RATE PER 1,000 LEGITIMATE AND ILLEGITIMATE BIRTHS.

	Legitimate	Illegitimate		Legitimate	Illegitimate
1899-1900, ...	144	286	1923, ...	85	163
1901-1910, ...	126	257	1924, ...	115	182
1911-1915, ...	127	217	1925, ...	99	157
1916-1920, ...	110	175	1926, ...	101	157
1921, ...	102	163	1927, ...	105	147
1922, ...	116	181			

Sex is of considerable importance in relation to infant mortality but, as the ratio of male to female births remains fairly uniform, its influence is also constant. The excess of mortality among males has, on occasion, approached almost 50 per cent., as during the year 1923. As a rule, however, the death-rate among males is about 25 per cent. higher than the rate among females, and this was the case last year. Difficulties at birth do not explain all this difference.

There were 1,432 deaths of male children and 1,095 deaths of female children during the year, compared with 1,478 and 1,054 respectively for the previous year.

Causes of Infant Mortality.—The various causes which operate during each month of the first year of life in each sex are contained in Appendix Tables XIII and XIV. The deaths in the first month of life again form fully one-third of the total, and two-thirds of the deaths during the first month occur in the first week.

Information contained in Appendix Tables XIII and XIV is here summarised for ready reference and comparison. Under the new classification of deaths, the group known as "injury at birth and other diseases of early infancy" has been transferred from the group "all other causes" to the "immaturity" group. The effect of this is to add about two to the rate for this group of causes, which has usually formed about one-third of the total.

The respiratory group was adversely affected during the year by the prevalence of pneumonia, &c., in the spring, the rate for males being 36 per 1,000 births, compared with 29 for the previous year. The female rate was only slightly higher.

Although the weather conditions of 1927 were not such as to increase diarrhœal deaths, the rate for males from diseases of the digestive system is somewhat heavy at 17 compared with the rate of 10 for females. The rates for diseases of the nervous system and tuberculosis are this year both slightly lower for males, and remain the same for females. Infectious diseases form another group which influences the total infant mortality from year to year, and in 1927 the rates for both sexes at 14 are definitely higher than those of the preceding year. The reason for this was the prevalence of whooping-cough in the spring of the year, and the early advent of the winter epidemic of measles, which began in September, and was latterly complicated by a considerable amount of pneumonia.

	Average Rate per 1,000 Births.							
CAUSES OF DEATH.	1916-20	1921	1922	1923	1924	1925	1926	1927
MALES—								
I. Immaturity...	46	41	40	36	42	41	44	39
II. Diseases of Respiratory System,	27	22	43	20	39	30	29	36
III. Diseases of Digestive System,	18	21	12	12	14	15	15	17
IV. Diseases of Nervous System,	8	7	7	7	6	8	8	6
V. Tuberculous Diseases, ...	3	3	2	3	3	2	2	1
VI. Infectious Diseases, ...	11	14	17	13	17	13	11	14
VII. Suffocation, ...	—	—	1	—	—	—	—	1
VIII. All other causes, ...	10	9	12	8	9	9	9	5
All Causes, ...	123	117	134	99	130	118	118	119
FEMALES—								
I. Immaturity,...	36	36	34	31	31	27	29	37
II. Diseases of Respiratory System,	21	16	29	16	29	20	23	24
III. Diseases of Digestive System,	14	15	9	8	11	10	13	10
IV. Diseases of Nervous System,	6	5	5	4	5	4	4	4
V. Tuberculous Diseases, ...	3	2	2	2	1	1	1	1
VI. Infectious Diseases, ...	11	12	16	12	17	14	10	14
VII. Suffocation, ...	—	—	1	—	1	1	1	—
VIII. All other causes, ...	9	6	9	6	9	6	7	5
All Causes, ...	100	92	105	79	104	83	88	95
Ratio—Males to 100 Females, ...	123	127	127	125	125	142	134	125

SHETTLESTON AND TOLLCROSS CHILD WELFARE CENTRE—REAR VIEW

Ward Distribution.—As with the general death-rate, the inward transfer deaths—*i.e.*, deaths of those occurring outwith the City whose home address was within the City—for this year have been allocated to the respective wards. The ward rates shown in Table XII in the Appendix are thereby somewhat increased.

The highest ward rate is 144 in Blythswood, where it is liable to considerable variations by reason of the number of institutions, &c., in that district. Among the other wards the rate for Mile-End was 140, followed by 135 in Exchange and 133 in Hutchesontown. The lowest rate is 12 in Pollokshields, despite the fact that there is now added a considerable population of the industrial class resident in the Mosspark Housing Scheme. Other low rates were 47 in Dennistoun, and 48 in Pollokshaws and Cathcart.

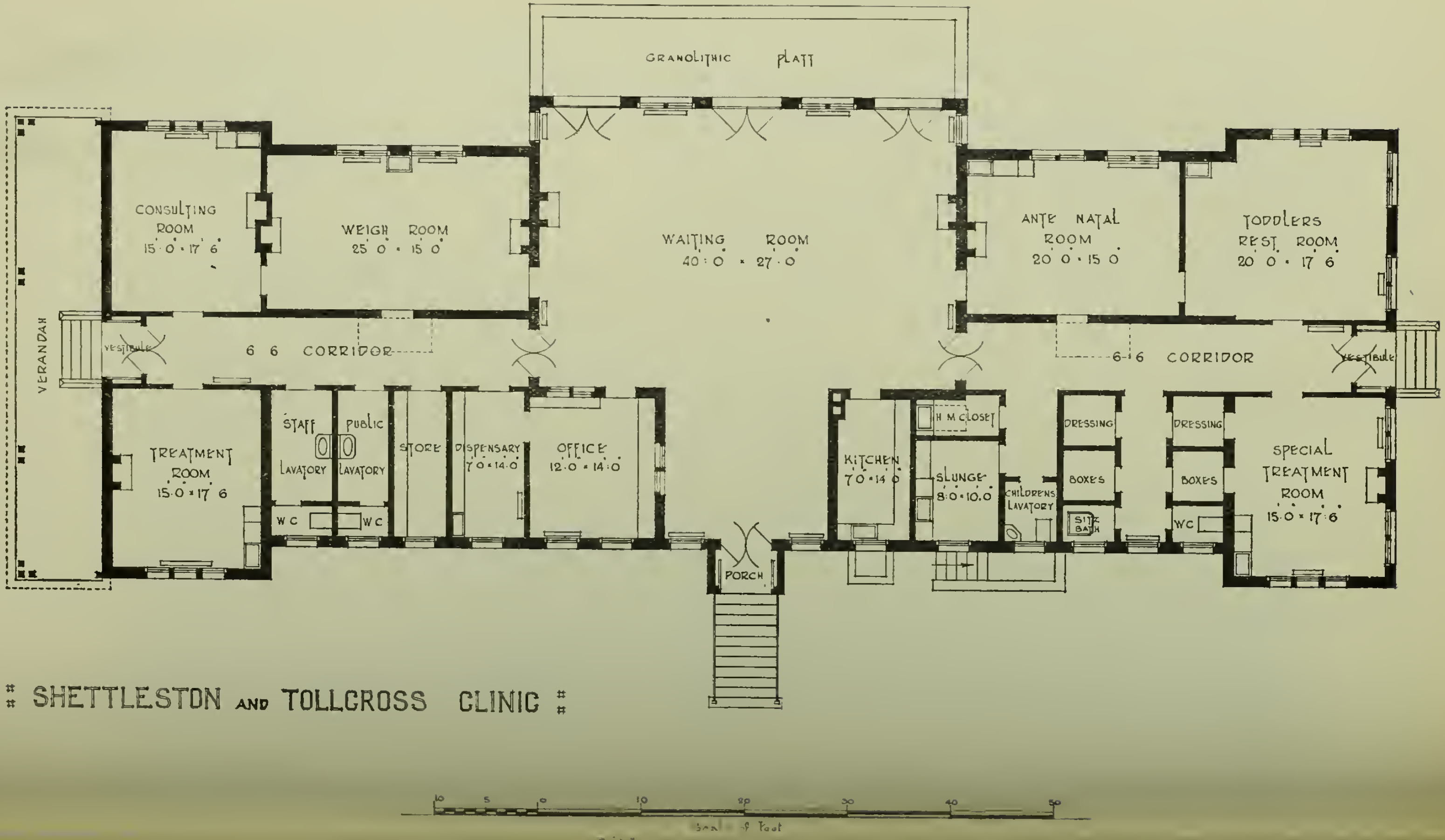
CHILD WELFARE SCHEME.

Developments of the Maternity and Child Welfare Scheme during the year include the coming into force of the Midwives and Maternity Homes (Scotland) Act, 1927, and the completion of the new Child Welfare Centre at Tollcross Park, Shettleston, the fifth new Centre erected since the war.

Shettleston Child Welfare Centre.—This Centre is situated in Wellshot Road, Shettleston, between the Corporation Public Library and Public Hall, at the north-east corner of Tollcross Public Park. The building has a southern aspect, and has been so erected as to leave ground available for extension for other purposes if necessary.

The general plan, which appears on the following page, shows a central waiting room measuring 40 feet by 20 feet with a granolithic platt in front. At the back of the waiting room, convenient to the entrance corridor, are situated an office 12 feet by 14 feet, a dispensary 10 feet by 14 feet, and a small kitchen 7 feet by 14 feet. To the east of the waiting room is situated the infants' weighing room measuring 25 feet by 15 feet, which in turn has direct access to the consulting room.

Opposite the consulting room, on the other side of the corridor, is placed the treatment room, where simple forms of treatment



:: SHETTLESTON AND TOLLCROSS CLINIC ::

under the supervision of the clinical medical officer are carried out. Staff and public lavatories are situated in this part of the building.

To the west of the waiting room are situated an ante-natal room 20 feet by 15 feet, toddlers' rest room 20 feet by 17½ feet, and on the opposite side of the corridor a special treatment room 15 feet by 17½ feet, dressing boxes, slunge, and children's lavatory, etc. The verandah at the eastern end of the corridor will be utilised as a pram shelter.

NOTIFICATION OF BIRTHS.

The number of notifications of births received during 1927 is shown in Appendix Table XV, compared with the corresponding figures for the two preceding years. As notifications include still births, the notifications are always in excess of the number of births registered. Omissions to notify births in terms of the Act average around 2½ per cent., but most of these are formally intimated after attention has been directed to the omission.

Nature of Attendance at Births.—The proportion of births medically attended has fallen from 48·6 per cent. in 1914 to 40·1 in 1925. In 1927 the proportion was 43·3.

Still Births.—The number of still births known to occur in Glasgow usually averages about 4 per cent. of the total births. During 1927 there were 1,016 still births, equal to a rate of 4·1. Of the medically attended births there were 265 still births among home cases, representing a rate of 3·6, and 380 in institutions, equal to a rate of 10·5. Together the rate indicated is 6·0. Among non-medically attended births there were 371, which is equivalent to a rate of 2·6.

WORK OF THE MATERNITY AND CHILD WELFARE CENTRES.

Owing to the small numbers attending the Child Welfare Centre at Yoker it was decided to close it towards the end of the year, and to adopt a system of house visitation.

The opening of the new Centre at Shettleston, at which it is now possible to hold a larger number of weekly clinics, and the commencement of an additional light treatment Centre at Govan Town Hall, made it necessary to revise the list of clinics which, as now arranged, is given in the following statement:—

LIST OF MATERNITY AND CHILD WELFARE CLINICS.

	9 a.m.	1.30 p.m.
Monday,	1 Maxwell St., Partick (Ante-natal). Church Hall, Garngad Hill. 106 Orr Street (1-5 years). 130 Adelphi Street, S. 132 Weir Street. 2 Summerton Rd., Govan (Ante-natal).	20 Cochrane St. (Ultra-Violet Ray). 1 Maxwell Street, Partick. 60 Avenuepark Street. 106 Orr Street. 130 Adelphi Street, S. 132 Weir Street. 2 Summerton Rd., Govan (Ultra-Violet Ray
Tuesday,	77 Port Street (1-5 years). Church Hall, Garngad Hill. 60 Avenuepark Street. Wellshot Road, Shettleston. 132 Weir Street. 2 Summerton Rd., Govan.	77 Port Street. 194 Campbell Street, Springburn. 614 Dobbie's Loan (Ante-natal). 106 Orr Street. Wellshot Road, Shettleston. Elder Park Centre (Ante-natal).
Wednesday,	20 Cochrane St. (Ultra-Violet Ray). 77 Port Street. 60 Avenuepark Street. 106 Orr Street (1-5 years). Wellshot Road, Shettleston 130 Adelphi Street, S. 2 Summerton Rd, Govan (Ultra-Violet Ray).	20 Cochrane Street. 1 Maxwell Street, Partick (1-5 years). 194 Campbell Street, Springburn (Ant natal). 614 Dobbie's Loan. 106 Orr Street. 130 Adelphi Street, S. (Ante-natal). 2 Summerton Road, Govan.
Thursday,	20 Cochrane Street (1-5 years). 1 Maxwell Street, Partick. 614 Dobbie's Loan (1-5 years). 106 Orr Street (1-5 years). Wellshot Road, Shettleston. 130 Adelphi Street, S. (1-5 years). 132 Weir Street.	1 Maxwell Street, Partick (1-5 years). 60 Avenuepark Street (Ante-natal). 614 Dobbie's Loan (-1 year). 106 Orr Street. Wellshot Road, Shettleston, (Ante nata 130 Adelphi Street, S. 132 Weir Street. 2 Summerton Road (Ante-natal).
Friday,	194 Campbell Street, Springburn. 614 Dobbie's Loan (1-5 years). 106 Orr Street. 130 Adelphi Street, S. (1-5 years). 2 Summerton Road, Govan. Elder Park Centre.	20 Cochrane St. (Ultra-Violet Ray). 1 Maxwell Street, Partick. 194 Campbell St., Springburn. 614 Dobbie's Loan. 106 Orr Street (Ante-natal). 2 Summerton Road, Govan. (Ultra-Viol Ray). Elder Park Centre.

Maternity Hospital Ante- and Post-natal Clinics—Daily, Monday to Friday, at 1.30 p.m

Vaccination is also done at 20 Cochrane Street on Tuesdays at 12.30 p.m.

There are now 13 Centres at which 67 child welfare consultations are held weekly, 10 of them being ante-natal clinics, 51 infant consultations, and 6 ultra violet light clinics. All of them are now held in Corporation premises with the exception of two—Port Street and Garngadhill. At the Centres infant consultations to the number of 2,642 were held during the year compared with 2,533 in 1926, an increase of 109 sessions. In addition there were held 488 ante-natal and 194 actinotherapy sessions.

The total number of attendances at the infant consultations was 131,298, or an average of nearly 50 per consultation, of which 3 were primary attendances. For every primary attendance there were 14 subsequent attendances. Both primary and secondary attendances are considerably below the figures for 1926. This reduction in numbers has tended to relieve the overcrowding from which certain of the clinics suffered, and has enabled more individual attention to be given to the children.

The following table gives the attendances at each consultation Centre during the years 1926 and 1927:—

ATTENDANCES AT INFANT CONSULTATIONS, 1927.

	No. of Consultations held.	Children – 1 Year. No. of Attendances.		Children + 1 Year. No. of Attendances.		Total No. of Attendances.		1926 Total No. of Attendances.	
		Prim.	Sub.	Prim.	Sub.	Prim.	Sub.	Prim.	Sub.
Adelphi Street,	300	1,073	8,860	294	10,127	1,367	18,987	1,620	19,084
Campbellfield St.,[1]	—	—	—	—	—	—	—	—	60
Cowcaddens, -	258	726	6,001	262	7,420	988	13,421	1,604	17,395
Elderpark, -	102	315	2,556	—	—	315	2,556	370	3,209
Garngad Hill, -	98	243	1,971	59	3,408	302	5,379	578	8,395
Govan, - -	189	434	3,518	92	4,071	526	7,589	755	10,889
Orr Street, -	404	1,578	13,525	281	10,898	1,859	24,423	2,488	28,219
Maryhill, -	151	348	2,832	98	4,044	446	6,876	590	7,892
Partick, - -	243	438	3,557	106	5,417	544	8,974	730	10,622
Port Street, -	156	372	3,104	102	2,678	474	5,782	634	7,402
Shettleston. -	145	311	2,898	100	4,186	411	7,084	605	10,174
Weir Street, -	300	436	4,420	72	6,813	508	11,233	735	13,748
Cochrane Street,	104	205	1,484	86	1,444	291	2,928	364	3,712
Yoker,[2] - -	50	48	398	13	301	61	699	60	713
Springburn,[3] -	142	451	3,332	153	3,339	604	6,671	217	1,420
	2,642	6,978	58,456	1,718	64,146	8,696	122.602	11,350	142,934
		65,434		65,864		131,298		154,284	

(1) Closed January, 1926.

(2) Transferred in May, 1926; Closed December, 1927.

(3) Opened September, 1926.

The illness, &c., recorded at the consultations are here summarised:—

INFANT CONSULTATIONS.—ILLNESSES, &C., RECORDED.

	1926		1927	
	−1 Year	+1 Year	−1 Year	+1 Year
Debility and Malnutrition (including Underweight), ...	405	216	385	148
Birth Debility, ...	58	1	58	—
Prematurity, ...	69	—	51	—
Marasmus, ...	56	9	17	—
Anæmia, ...	—	2	—	—
Diseases of Digestive System,...	9	7	5	1
Diseases of Respiratory System,	13	—	3	1
Tuberculosis, ...	—	3	—	—
Syphilis, ...	—	—	1	—
Measles, ...	—	3	—	2
Whooping-Cough, ...	—	—	2	—
Rickets, ...	14	201	9	113
Others, ...	15	6	6	3
TOTAL, ...	639	448	537	268

Facilities have been afforded to Dr S. V. Telfer, Bio-chemical Department, Western Infirmary, Glasgow, in the investigations of mineral metabolism in children which are being conducted for the Rickets' Committee of the Scottish Board of Health.

An investigation into the mineral constituents of human milk has been made during the past year, involving the chemical analysis of a series of milk specimens collected under the direction of Dr. Auld at the Child Welfare Centre, Bridgeton Cross. A collateral study of mineral utilization in infants has been carried out at the Garscube Cottage Hospital under the charge of Dr. Chalmers Smith. Dr. Telfer is preparing the results of these investigations for publication at an early date.

SUPPLY OF MILK AND MEALS TO NECESSITOUS MOTHERS AND CHILDREN.

During the year supplies of milk and meals continued to be given to expectant and nursing mothers, and to children up to five years of age, under the following general conditions:—(1) Regular attendance at a Child Welfare Centre; (2) when the case was necessitous; and (3) when a supply of milk or meals was certified by the Medical Officer of the Centre to be required on the grounds of health.

Except where conditions of health required a more frequent attendance, infants are not expected to attend more frequently than once a fortnight, and toddlers once in six weeks.

While compliance with above general conditions is usually required, exception is made where a mother or child, on first attendance at an infant consultation, presents conditions of health which suggest that an immediate grant of either milk or meals may be desirable or necessary.

The following table summarises the applications and grants for the year 1927:—

	Applications Granted			
	Free	At Reduced Price	Application Refused	Total
Fresh Milk, ...	40,900	929	217	42,046
Dried Milk, ...	235	14	1	250
Dinners, ...	1,345	—	1	1,346
Fresh Milk in lieu of Dinners,	38	—	—	38
	42,518	943	219	43,680

These totals represent the number of individuals included in the applications. Grants, when made, are mainly for a period of six weeks at a time.

(a) *Fresh Milk.*—The following table further analyses the number of applications for fresh milk granted during the year:—

Rate charged to Applicant	Number of Families	Number of Expectant and Nursing Mothers	Number of Children under 5 years	Total Number of Pints ordered
ORIGINAL APPLICATIONS.				
Half-Price, ...	68	37	36	3,066
Free, ...	3,245	1,956	1,570	148,092
	3,313	1,993	1,606	151,158
REPEAT APPLICATIONS.				
Half-Price, ...	603	124	732	35,952
Free, ...	26,855	8,105	29,269	1,569,708
	27,458	8,229	30,001	1,605,660
TOTALS.				
Half-Price. ...	671	161	768	39,018
Free, ...	30,100	10,061	30,839	1,717,800
	30,771	10,222	31,607	1,756,818

This table shows that 3,313 original applications were granted during the year for supplies of fresh milk, covering 1,993 expectant or nursing mothers, and 1,606 children under five years of age, or, together, 3,599 individuals. Repeat applications to the number of 27,458 were received, which is equivalent to 8·3 repeats per original application, so that, when once granted, an applicant remains on the roll more or less for a whole year. The total quantity of fresh milk ordered was 1,756,818 pints, and the cost £18,574.

Certificates for grants of fresh milk were given by the medical officers at the various Centres for the following reasons:—

SUMMARY OF MEDICAL CERTIFICATIONS ON APPLICATIONS FOR FRESH MILK.

Diseases	Mothers		Children		Total
	Expectant	Nursing	-1 year	-5 years	
Debility, ...	1,163	262	159	1,029	2,613
Progressing, ...	—	—	779	2,454	3,233
Insufficiency of Breast Milk,	—	8,491	—	—	8,491
Child losing Weight, ...	—	—	149	1,223	1,372
Child under Weight, ...	—	—	3,770	13,144	16,914
Child's Weight stationary....	—	—	127	1,116	1,243
Malnutrition, ...	—	—	277	760	1,037
Marasmus, ...	—	—	9	2	11
Debility—after—					
Infectious Diseases, ..	—	—	82	827	909
Other Diseases, ...	66	3	207	1,033	1,309
Infectious Diseases—					
Measles, ...	—	—	6	38	44
Whooping Cough, ...	—	—	16	84	100
Chickenpox, ...	—	—	—	9	9
General Diseases—					
Anæmia, ...	162	28	4	13	207
Rickets, ...	—	—	179	3,997	4,176
Diseases of Respiratory System—					
Bronchitis, ...	2	2	19	50	73
Pneumonia, ...	—	—	2	7	9
Others—					
Enteritis, ...	—	—	9	31	40
Albuminuria, ...	39	—	—	–	39
Totals, ...	1,432	8,786	5,794	25,817	41,829

(b) *Dried Milk.*—During the year supplies of dried milk were also given in suitable cases, the brand in use being "Glaxo," the number of applications received being as follows:—

	Number of Families	Number of Expectant and Nursing Mothers	Number of Children under five years	Number of Packets Ordered
Original Applications,	196	7	190	240
Repeat ,,	2,177	46	2.171	3,501
Total, ...	2,373	53	2,361	3,741

While the same scale of "necessitousness" is applied to applications for dried milk as to applications for fresh milk, the conditions of grant are somewhat different, for, while grants of fresh milk are refused to families whose income is over the scale, supplies of dried milk may be given at the wholesale rate. The following summary shows the number of packets and the amount recovered, as well as the loss falling upon the Corporation, for the supplies of dried milk issued under these conditions:—

Price per Packet	Number of Packets Issued	Cost to Corporation	Amount Recovered	Gain or Loss to Corporation
Full Price—				
1s. 6d., - -	2,234	£148 18 8	£167 11 0	+ £18 12 4
Part Price—				
1s.. - - -	68	4 10 8	3 8 0	- 1 2 8
Free, - - -	1,439	95 18 8	—	- 95 18 8
	3,741	£249 8 0	£170 19 0	- £78 9 0

In all, 3,741 packets were distributed under the scheme, of which 2,234 were charged at full price, 68 at part price, while 1,439 were given free, the net loss to the Corporation being £78 9s.

The reasons given in the medical certificate forms are shown in the following summary:—

SUMMARY OF MEDICAL CERTIFICATIONS ON APPLICATIONS FOR DRIED MILK.

Diseases	Mothers		Children		Total
	Expectant	Nursing	-1 Year	-5 Years	
Debility, ...	—	—	5	1	6
Progressing, ...	—	—	40	1	41
Insufficiency of Breast Milk,	—	9	—	—	9
Child Losing Weight, ...	—	—	6	—	6
Child Under Weight, ...	—	—	166	2	168
Child's Weight Stationary,	—	—	1	—	1
Malnutrition, ...	—	—	6	—	6
Debility after Infectious diseases, ...	—	—	1	—	1
Do. other diseases,	—	—	6	—	6
Measles, ...	—	—	1	—	1
Anæmia, ...	—	2	—	—	2
Rickets, ...	—	—	—	1	1
Bronchitis, ...	—	—	1	—	1
Totals, ...	—	11	233	5	249

Economic Conditions. — The following summary shows the conditions under which applications came within the scale of allowances: —

Applications Refused—		
Income over scale, ...		218
Applications granted at half-price, ...		943
Applications granted free—		
On Unemployed Relief Scale, ...	25,345	
Parish and Health Insurance, ...	1,587	
Illegitimacy, ...	543	
Employed full-time, but under Scale. ...	2,357	
Waiting Labour Bureau and Parish, ...	485	
Employed part-time, ...	1,293	
Pension only, ...	1,268	
Bureau only, ...	7,082	
Deserted Wife, ...	479	
Health Insurance, ...	97	
Compensation, ...	158	
Labour Bureau and Pension, ...	175	
Labour Bureau and room let, ...	180	
No Income, ...	167	
Strike pay, ...	3	
		41,219
		42,380

Supply of Meals. — The arrangement with the Education Authority for the supply through their feeding Centres of meals for mothers and children, granted under the Child Welfare Scheme, was continued during the year, and the following table shows the numbers supplied from each of these Centres: —

Centre	Children (3-5 Years)	Infants (9 Months-3 Years)	Expectant and Nursing Mothers	Total
Hayfield School, ...	1,469	1,348	1,458	4,275
Dalmarnock School, ...	—	—	36	36
David Street School, ...	—	36	—	36
Greenside School, ...	497	432	183	1,112
Rosemount School, ...	2,663	3,758	3,033	9,454
Milton Street School, ...	7,500	8,478	7,160	23,138
Keppochhill School, ...	748	610	488	1,846
Eastpark School, ...	2,065	2,315	520	4,900
Anderson Street School, ...	173	39	36	248
All Centres, ...	15,115	17,016	12,914	45,045

The charge by the Education Authority is 3½d. per meal, and the total cost for the year amounted to £630.

SEWING, &c., CLASSES.

Classes for sewing and social evenings for mothers were arranged at various Centres during the winter months, as shown below:—

Centre.	Nature of Class.	Period.	Day and Hours.	Average Attendance.
Cowcaddens	Sewing	Oct. to Mar.	Mon., 7.30 p.m.	36
Bridgeton	Sewing	Oct. to Mar.	Wed., 7 p.m.	45
Hutchesontown	Sewing (Conducted by Gorbals Branch G.I.H.V.A.)	Oct. to April	Tues., 2.30 p.m.	25
Partick	Sewing (Conducted by Partick Branch G.I.H V.A.)	Oct. to Mar.	Tues., 2.30 p.m.	24
Govan	Sewing (Conducted by Govan East Branch G.I.H.V.A.)	Oct. to Mar.	Thurs., 7 p.m.	36-40
Arklet Road	Sewing and Lectures (Conducted by Govan West Branch G.I.H.V.A.)	Oct. to Mar.	Wed., 7 p.m.	50
Port Street	Knitting (Conducted by Anderston Branch G.I.H.V.A.)	Oct. to June	Thurs., 2 p.m.	15
Maryhill	Sewing (Conducted by Maryhill Branch G.I.H.V.A.)	Oct. to Mar.	Tues., 7.30 p.m.	30
Kingston	Sewing (Conducted by Kingston Branch G.I.H.V.A.)	Oct. to Mar.	Thurs., 7.30 p.m.	30

Cookery demonstrations were given on certain evenings at three of the Centres—Bridgeton, Cowcaddens, and Govan Town Hall—and took the place of the weekly sewing classes. The demonstrations were conducted by a certificated teacher from the Glasgow College of Domestic Science.

ANTE-NATAL CONSULTATIONS.

Glasgow Royal Maternity Hospital.—The total number of cases attending the ante-natal dispensary for the first time was 4,267 during 1927, compared with 4,266 in 1926, while the total attendances during the respective years were 10,364 and 10,011. During 1927, 2,705 cases were treated to a termination in delivery, of which 890 were attended in their own homes.

The number admitted to the ante-natal wards during 1927 was 919, compared with 866 in 1926.

At the infant consultations held at the Maternity Hospital there were 6,133 attendances, as compared with 7,053 during the previous year. The first attendances numbered 1,104.

	1925	1926	1927
ANTE-NATAL DISPENSARY—			
Number attending for first time, ...	3,878	4,266	4,267
Total attendances, ...	8,205	10,364	10.011
Number treated to a termination in delivery, ..	2,129	2,661	2,705
Number sent to Hospital from Dispensary—			
(*a*) For confinement, ...	1,458	1,820	1,626
(*b*) ,, treatment, ...	231	279	293
(*c*) ,, miscarriage, ...	91	107	100
ANTE-NATAL WARDS—			
Average number under treatment, ...	22	24	22
Number admitted, ...	730	866	919
Total days, ...	7,933	8,838	8,036
Condition on dismissal :—			
(1) Recovered, ...	123	202	152
(2) Improved, ...	142	180	147
(3) Confinement completed, ...	437	440	558
(4) Died, ...	1	1	4
(5) No change, ...	31	42	64

	1925	1926	1927
INFANT CONSULTATION—			
First Attendances, ...	1,095	1,167	1,104
Subsequent Attendances, ...	5,299	5,886	5,029
Total, ...	6,394	7,053	6,133

During the year ante-natal clinics were begun at two of the new Child Welfare Centres—Springburn and West Govan. There are now ten ante-natal Centres, at which, during 1927, there were 488 sessions. The number of expectant mothers attending was 2,068, compared with 2,113 in 1926. Subsequent attendances numbered 7,229, making a total of 9,297.

The number of consultations and attendances at each Centre is shown in the following tables:—

ATTENDANCES AT ANTE-NATAL CLINICS, 1927.

	No. of Clinic Sessions.	No. of Attendances. Primary.	Subsequent.	Total.
Partick, ...	47	226	1,068	1,294
Cowcaddens, ...	52	219	960	1,179
Maryhill, ...	52	178	1,059	1,237
*Springburn, ...	40	77	227	304
Orr Street, ...	103	357	977	1,334
Hutchesontown, ...	52	353	1,102	1,455
Govan, ...	99	471	1,252	1,723
*Elderpark, ...	43	187	584	771
	488	2,068	7,229	9,297

* Opened in February

The following tables show (1) the age of mothers who attended, and (2) the conditions requiring attention which were found:—

Ages of Mothers	Partick	Cow-caddens	Mary-hill	Spring-burn	Orr Street	Hutcheson-town	Govan	Elder-park	Totals
– 20	7	11	9	3	18	12	24	8	92
– 25	53	53	38	24	60	68	121	55	472
– 30	67	58	40	39	106	116	111	53	590
– 35	62	46	47	19	108	90	96	51	519
– 40	22	14	28	10	41	46	63	33	257
– 45	9	7	6	2	20	10	14	11	79
45 + ...	—	1	—	—	2	1	—	1	5
Not Pregnant, ...	7	5	10	2	2	11	11	6	54
	227	195	178	99	357	354	440	218	2,068

Note—1 case transferred from Cowcaddens to Partick; 23 cases transferred from Cowcaddens to Springburn; 1 case transferred from Springburn to Hutchesontown; 32 cases transferred from Govan to Elderpark; 1 case transferred from Elderpark to Govan.

Conditions Found	Partick	Cow-caddens	Mary-hill	Spring-burn	Orr Street	Hutcheson-town	Govan	Elder-park	Totals
Venereal Disease, ...	8	8	8	1	9	5	9	1	49
Varicose Veins, ...	24	36	31	10	31	18	83	29	262
General Debility, ...	83	53	79	21	81	130	115	35	597
Cardiac Disease, ...	11	7	7	4	11	15	30	24	109
Hyperemesis Gravidarum,	1	4	1	5	7	3	2	1	24
Alimentary Conditions,	27	39	25	37	77	55	117	65	442
Dentition (Bad), ...	26	26	19	27	58	56	152	61	425
Contracted Pelvis, ...	24	52	14	8	12	14	18	13	155
Kidney Disease (Albuminuria), ...	28	39	18	13	32	58	79	11	278
Respiratory Disease, ...	12	23	13	11	39	21	58	15	192
Hæmorrhage, ...	5	2	3	2	10	11	17	10	60
No apparent disease, ...	15	8	11	2	33	47	44	13	173
Other conditions, ...	11	52	11	13	57	20	33	14	211
	275	349	240	154	457	453	757	292	2,977

The conditions found on medical examination are enumerated in the above statement, but as in many cases two or three causes of illness were present, the total number of conditions is much in excess of the number of mothers. The most frequent conditions requiring attention were those of the alimentary system (including constipation), general debility, anæmia, varicose veins, albuminuria, &c.

About 15 per cent. were primiparæ, as shown in the following summary:—

	Partick	Cow-caddens	Maryhill	Spring-burn	Orr Street	Hutcheson-town	Govan	Elder-park	Totals
Primiparæ,	27	16	21	9	48	48	83	37	289
Multiparæ,	193	174	147	88	307	295	346	175	1.725
Total,	220	190	168	97	355	343	429	212	2,014

The results, so far as known, as to whether pregnancy resulted at full term, prematurely, &c., are here given, together with the number of still births:—

PREVIOUS YEAR'S CASES TERMINATED IN 1927:—

	Partick	Cow-caddens	Maryhill	Spring-burn	Orr Street	Hutcheson-town	Govan	Elder-park	Totals
Alive, ...	88	65	46	3	83	74	166	24	549
Still Births, ...	2	3	1	—	5	4	8	2	25
Full-term, ...	90	65	47	3	82	77	170	26	560
Premature, ...	—	3	—	—	6	1	4	—	14
Not pregnant, ..	—	—	—	—	1	—	—	1	2
Abortion or Miscarriage. ...	—	—	1	—	—	—	2	—	3
No trace and left district, ...	—	2	—	—	11	3	2	—	18
	90	70	48	3	100	81	178	27	597

NOTE.—3 cases transferred from Cowcaddens to Springburn and 27 cases from Govan to Elderpark.

1927 Cases:—

	Partick	Cow-caddens	Maryhill	Spring-burn	Orr Street	Hutcheson-town	Govan	Elder-park	Totals
Alive.	169	125	92	63	258	225	327	143	1,402
Still Births. ...	7	5	7	2	10	8	13	8	60
Full-term, ...	173	124	92	61	264	220	335	149	1,418
Premature, ...	3	6	7	4	4	13	5	2	44
Not pregnant, ...	7	5	10	2	2	11	11	6	54
Abortion or Miscarriage, ...	2	2	2	1	7	5	8	1	28
Left district, ...	2	3	1	2	4	3	—	2	17
Died, ...	—	—	—	—	—	—	1	—	1
Not terminated,	40	55	66	29	76	102	80	58	506
	227	195	178	99	357	354	440	218	2,068

The total number of still births (85) occurring among the pregnancies included in this analysis represents a rate of 4·2 per cent., which may be compared with the average of 4·1 per cent. for the City generally. The percentage of still births among cases attending during the previous year was 4·1.

A similar comparison as to whether the births occurred at full time or otherwise shows that during 1927 the premature births formed about 2·5 per cent. of the total, as compared with 4·0 per cent. for the previous year.

The month at which the first attendance was made at the clinic is given below, and shows that, although the majority came during the seventh month, almost one-half of the total attended at an earlier period:—

Month of Attendance	Partick	Cowcaddens	Maryhill	Springburn	Orr Street	Hutchesontown	Govan	Elderpark	Totals
1	2	2	—	—	1	—	1	—	6
2	8	13	7	7	14	15	14	5	83
3	12	14	18	6	19	34	18	8	129
4	16	21	25	8	30	24	25	16	165
5	23	28	30	16	42	44	43	24	250
6	46	48	29	27	67	76	66	40	399
7	57	32	38	23	87	91	124	52	504
8	45	23	12	8	71	49	104	47	359
9	11	9	9	2	24	10	34	20	119
Not pregnant, ...	7	5	10	2	2	11	11	6	54
	227	195	178	99	357	354	440	218	2,068

MATERNAL DEATHS.

Among the 2,036 individual mothers who attended the Corporation Ante-natal Clinics, and whose pregnancy terminated during the year, there occurred 11 deaths. All the remainder were alive up to one month after confinement. These 11 deaths were as follows:—

Four patients were sent direct from the clinics to the Maternity Hospital as urgent cases, and died there, the affections being albuminuria, placenta prævia, and hyperemesis (two patients). Two of the above patients, the case of placenta prævia and one of the cases of hyperemesis, were found to be urgent when they paid their first visit to the clinic. Two patients, although advised, refused to go to hospital, in spite of repeated endeavours, until they had finally to be admitted, acutely ill. One of these died of heart disease, and the other of chronic bronchitis with dilated heart. In four patients, no abnormality was detected at the clinics, the final causes of death being rupture of the uterus and pneumonia, puerperal septicæmia (two patients), and heart failure. The remaining patient died of diabetes and cardiac failure; she had attended a clinic once—a week before confinement.

The ratio of the 11 maternal deaths to 2,036 mothers is equivalent to a rate of 5·4 per 1,000, which may be compared with the rate of 7·0, representing 160 deaths among the remaining 24,882 notified births during 1927.

Altogether there were 164 deaths in Glasgow ascribed by the Register-General to maternal causes, equal to a rate of 6·68 per 1,000 births, compared with 7·63 for the preceding year. There are quite definite variations in the rates from the several causes included in this group—abortion, miscarriage, etc., being almost double the preceding year, but the rate for puerperal fever is lower.

Statement showing Maternal Deaths and Rate per 1,000 Births in Glasgow, in the Years 1921-1926.

	1921	1922	1923	1924	1925	1926		1926 Scotland
	Rate	Rate	Rate	Rate	Rate	Deaths	Rate	Rate
Abortion Miscarriage, - -	·30	·64	·49	·32	·39	16	·65	·42
Uncontrollable Vomiting, - -	·13	·14	·07	·20	·47	10	·41	·37
Ectopic Gestation, - - -	·20	·11	·11	·16	·28	—	—	·07
Other Diseases and Accidents of Pregnancy, - - - -	·24	·32	·22	·39	·35	1	·04	·19
Puerperal Hæmorrhage, - -	·87	·88	·79	·39	·98	15	·61	·84
Other Accidents of Parturition, -	·54	·60	·75	·51	·67	24	·98	·64
Puerperal Sepsis, - - -	2·32	3·00	2·55	2·21	2·32	52	2·11	1·68
Phlegmasia Alba Dolens, Embolism,	·13	·28	·15	·04	·24	9	·37	·48
Albuminuria of Pregnancy, Eclampsia, - - - -	·87	·78	1·31	·95	1·14	26	1·06	1·16
Other Diseases of Puerperium, -	·77	·81	·64	·67	·71	10	·41	·51
Puerperal Diseases of Breast, -	—	·04	—	—	·08	1	·04	·04
Totals—Glasgow, - -	6·39	7·60	7·08	5·84	7·63	164	6·68	—
,, Scotland, - -	6·38	6·60	6·42	5·82	6·16	—	—	6·40

ULTRA-VIOLET RAY CLINICS.

The re-arrangement of the premises and the provision of additional accommodation in Govan Town Hall during the year provided an opportunity for establishing a light treatment installation for both Child Welfare and Tuberculosis purposes. At this Centre there are now three weekly clinics for light treatment, while the clinic at the Sanitary Chambers also functions three times weekly. The following are notes on the work done during the year at these clinics:—

ACTINOTHERAPY OUT-PATIENT CLINIC, 20 COCHRANE STREET.

The numbers treated since the beginning of this work in May, 1925, are:—1925, 194 children; 1926, 654 children and 14 mothers; 1927, 609 children and 23 mothers.

The number of new cases in 1927 is slightly lower than in 1926, as many of the new patents of 1926 had, during last year, second, or even third, courses of irradiation. Attendances at the clinics are large, averaging approximately 80 at each session. Clinics are held three times weekly. No alteration of the installation, previously described, was made during the year. Dr. E. D. Chalmers Smith reports as follows:—

Methods of Treatment.—Whilst general irradiation of the body is the rule, local treatment, as in cases of skin affections, is given, in addition, by the quartz mercury vapour lamp. Maintenance of skin sensitivity to the rays is attempted by regional irradiation, exposing alternately, and for varying periods, the anterior and posterior surfaces of the body.

The grouping of signs and symptoms resulting from the initial exposures, which has been already described in a previous report, continues to manifest itself and in approximately the same ratio, about 50 per cent. of the cases showing immediate response. A somewhat marked feature has been the improvement in catarrhal conditions, *e.g.*, gastro-intestinal and bronchial catarrhs have usually yielded to treatment, whilst the nutrition of the children has markedly improved.

Observation appears to point to a better general result following the use of both lamps, *i.e.*, carbon arc followed immediately by mercury vapour, than is obtained by the use of one alone. Groups, each of 20 children, of approximately corresponding ages, treated by one of these methods, were observed, weights and heights at the beginning and at the end of the course being noted. The course was of an average duration of two months.

	Mercury Vapour (20 Children)		Carbon Arc (20 Children)		Carbon Arc and Mercury Vapour (20 Children)	
Average time of exposure for each child, ...	1 hr. 55½ mins.		1 hr. 48 mins.		2 hrs. 12 mins.	
Average number of exposures, ...	25·5		26		29·5	
Average weight at beginning, ...	20 lbs.	4 ozs.	17 lbs.	10½ ozs.	18 lbs.	3 ozs.
Average weight at end, ...	22 ,,	8½ ,,	20 ,,	2 ,,	21 ,,	6½ ,,
Average difference, ...	2 ,,	4½ ,,	2 ,,	7½ ,,	3 ,,	3½ ,,
	Total	*Stem*	*Total*	*Stem*	*Total*	*Stem*
Average height at beginning, ...	28 ins.	17¼ ins.	28 ins.	17 ins.	28 ins.	17½ ins.
Average height at end, ...	30 ,,	18 ,,	29¼ ,,	17¾ ,,	30 ,,	18½ ,,
Average difference, ...	2 ,,	¾ ,,	1¼ ,,	¾ ,,	2 ,,	1 ,,

These observations suggest that weight and height are increased to a greater degree when both forms of irradiation are employed. This accords with clinical experience. As a matter of observation, also, it would appear to be more satisfactory to commence the treatment with exposure to the carbon arc lamp, in preference to the mercury vapour one.

Straightening of the legs, with consequent diminution of deformity in children under the age of 2½ years, is commonly observed. Recently, however, several cases of extreme knock-knee irradiated in 1925, whose ages then exceeded 2½ years, have been followed up. In these, a very striking gradual diminution in deformity has taken place, knock-kneed condition having practically disappeared without orthopædic interference. It may be that this result might have occurred spontaneously, but these cases were extreme and did not appear hopeful from this point of view.

Skin Conditions. — Skin conditions continue to be treated by general and local irradiation, using the quartz mercury vapour lamp for local treatment. Impetigo, furunculosis, and septic lesions, *e.g.*, cuts and abrasions, clear up quickly. Eczemas are more obstinate, but usually yield to treatment. The skin itself improves in texture, colour, and subcutaneous resilience, concurrently with the improvement in the general condition of the child and quite apart from any erythema produced.

The treatment of mothers includes :—

(1) Cases of pregnant women with mild toxæmic conditions, vomiting, constipation, restlessness, sleeplessness, and general debility. Great improvement follows irradiation.

(2) Cases of nursing mothers where lactation is unsatisfactory—this also improves. Mothers are considered specially suitable for irradiation where previous children have been rachitic.

Bone Changes in Rickets.—Improvement in the structure of bone is shown by radiographic examination. 54 cases have been examined in 1927 by Dr. Henderson at Ruchill Hospital. In the cases examined there has been gradual progress towards normal structure, some cases responding more quickly than others. Slow cases require repeat courses of irradiation.

Blood Changes.—Estimates of hæmoglobin content have been made by the City Bacteriologist. Hæmoglobin shows a constant rise as ultra-violet irradiation proceeds.

Following up of cases continues and in no case has any injurious after-effect been observed as a result of treatment. Progress is usually well maintained. Cases are, as before, asked to report two months after cessation of treatment for observation. As they return to the Child Welfare Clinic and resume attendance, they are there also under the observation of the Medical Officer in charge.

GOVAN ULTRA-VIOLET RAY CLINIC.

The Ultra-Violet Ray Clinic, in connection with the Child Welfare Centre in Govan Town Hall, was begun on September 12th.

The lamps in use are:—

(*a*) Two Westminster carbon arc lamps, with a voltage of 250 volts and consuming a current of 25-30 amperes.

(*b*) Hanovia Alpine sun mercury vapour lamp — of the vacuum type, with a voltage of 250 volts.

(*c*) K.B.B. quartz mercury vapour lamp—of the atmospheric type.

RECORD OF ATTENDANCES AND CONSULTATIONS DURING 1927.

	Number of Clinics held.	Children, -1 year. Number of Attendances.		Children, +1 year. Number of Attendances.		Mothers. Number of Attendances.		Total Number of Attendances.	
		Prim.	Sub.	Prim.	Sub.	Prim.	Sub.	Prim.	Sub.
Cochrane Street,	148	138	1,225	471	8,381	23	201	632	9,807
*Govan, - -	46	25	192	117	1,273	13	104	155	1,569
	194	163	1,417	588	9,654	36	305	787	11,376
		1,580		10,242		341		12,163	

*Opened September.

PRESENT AGES OF CHILDREN ATTENDING—	Cochrane Street.	Govan.
-1 year, ...	42	27
-2 years, ...	235	59
-3 ,, ...	174	25
-4 ,, ...	82	20
-5 ,, ...	76	11
	609	142

SEX—		
Male, ...	312	72
Female, ...	297	70
	609	142

CASES TREATED BY ULTRA-VIOLET RAYS.

	Cochrane Street.		Govan.	
CHILDREN—				
Rickets. 1. Prophylaxis,	12		1	
2. Early Rickets	73		9	
3. Moderate Rickets,	248		22	
4. Marked Rachitic deformity,	39		42	
		372		74
Of these 372,				
Rickets with Tetany,	14		—	
Rickets after Infectious Disease,	72		—	
Debility after Infectious Disease,	36		18	
Debility after Acute Illness,	19		—	
Debility—weight stationary, or losing, or not thriving,	50		15	
		105		33
Bronchitis,		—		5
Malnutrition,		80		12
Marasmus,		—		2
Mentally Defective (1 mongol),		9		—
Nervous instability,		—		12
Skin (receiving local in addition to general irradiation),		35		4
Special,		8		—
		609		142
MOTHERS—				
Pregnancy, with insomnia,		2		—
Pregnancy, with debility,		13		9
Nursing mothers, insufficient breast milk,		4		—
Other conditions,		4		4
		23		13

INFANT VISITATION.

Under the scheme of infant visitation every birth is visited if the notification does not state that a medical practitioner has been in attendance, and the following table shows the record of those visited, together with certain information obtained :—

	1925	1926	1927
Inquiry cards returned, ...	18,927	18,956	17,683
Full information obtained, ...	17,844	17,938	16,757
Doctor found in attendance,	43	41	32
Wrong addresses, ...	—	—	—
Others, ...	1,040	977	894
Inquiry cards issued, ...	19,240	18,530	17,742

Of those for whom full information was obtained—

	1925	1926	1927
Legitimate,	17,077	16,546	15,838
Illegitimate,	1,044	994	987
Born at full term,	17,327	16,676	15,990
Premature births,	794	864	835

Condition of Infant at Birth—

	1925	1926	1927
Well nourished,	14,825	14,353	13,456
Fairly nourished,	1.875	1,836	2,049
Badly nourished,	710	727	642
Still-born,	711	624	678

Nature of Feeding at First Visit—

	1925	1926	1927
Breast,	14.668	14,415	13,650
Artificial,	1,542	1,462	1,594
Breast and Artificial,	593	465	378
Still-born,	711	624	678
Dead at First Visit,	594	574	525
Adopted,	13	—	—

In addition to home visitation, the nurses attend the Child Welfare Consultations in their own districts. They thus have an opportunity of reporting to the doctor any illness or condition requiring medical treatment, and of following up the case afterwards to see that the treatment recommended is carried out.

The following series of summaries indicate the number of first and revisits overtaken, together with a record of conditions found:—

First Visits.

	1925	1926	1927
Infants visited under 1 year of age,	16,343	16,519	15,307
Infants visited over 1 year of age,	—	—	—
Removed and new address not traced,	387	459	383
In hospital or nursery,	101	100	100
Dead,	640	585	533
Refused admittance,	6	3	2
Doctor in attendance,	50	53	34
Information refused,	25	12	15
Still-born,	700	633	645
Visits unnecessary,	416	298	212
Adopted,	60	52	41
Nursed out,	19	17	7
	18.747	18,731	17,279

Revisits.

	1925	1926	1927
Infants visited under 1 year of age,	1,164	1,345	1,313
Infants visited over 1 year of age,	1,715	2,428	2,135
	2,879	3,773	3,448
Removed and new address not traced,	468	656	843
Out at time of visit,	157	114	126
In hospital or nursery,	18	21	34
Dead,	422	526	511
Adopted,	16	11	20
Refused admittance,	3	—	—
Doctor in attendance,	2	1	—
Visits unnecessary,	2	1	1
Nursed out,	8	4	12
Information refused,	1	—	—
Visits resented,	3	—	—
	3,979	5,107	4,995

The children found alive on the occasion of the first visit by the Health Visitor are classified in the following table under three groups:—

	Well	Fair	Bad	Total
1925,	14,201	2,008	134	16,343
1926,	14,427	1,956	136	16,519
1927,	13,331	1,851	125	15,307

Generally speaking, those classified as "well" on the occasion of the first visit were not revisited. The following table is a summary of results found at final visit:—

	Still Good	Much Improved	Slightly Improved	No Improvement	Worse	Total
1925,	2.065	783	21	10	—	2,879
1926,	2,896	834	27	16	—	3,773
1927,	2,504	894	44	6	—	3,448

GLASGOW INFANT HEALTH VISITORS' ASSOCIATION.

Working in association with the Public Health Department is the Glasgow Infant Health Visitors' Association, to whom are reported children whom it is desirable to keep under observation during a longer period than is possible by the official visitors. The number of visitors fluctuates around 300.

As the period of visitation generally extends over the first twelve months of life, a complete year must elapse before the results of the visitation can be summarised.

The following is a summary of the results for the years 1924-1926:—

Year	Year old	Removed	Dead	Ceased to be Visited	Visits Unnecessary	No Information	Visits Resented	No Visitor	Total
1924	1,932	266	182	26	34	4	4	1	2,449
1925	2,259	242	224	26	18	6	4	2	2,781
1926	1,685	249	161	21	14	5	7	4	2,146

SCHEME OF DOMESTIC HELPS.

This scheme, which began in November, 1924, may now be said to be fairly under way, as there is a more or less steady demand for three or four helps each week. During 1925 only 17 persons had taken advantage of the scheme; in 1926, 107 persons applied; and in 1927, 118 persons. These numbers only refer to applications arranged through the Department, but many others are known where direct arrangements were made between patients and home helps. Enquiry is often made by doctors and others for someone to sit at night with a case that does not actually require a nurse, and such requests as they arise are passed on to suitable women, the Department acting as a sort of arrangement bureau.

Payment for the services of helps is in accordance with a scheme of "necessitousness" based on the scale applicable to grants of milk and meals under the Child Welfare Scheme, with a minimum charge of one shilling per day. The following is a summary of the payments made for services rendered:—

	Cases	Number of Days Attended.	Rate per Day.	Amount Paid by Patient.
	58	623	1/-	£31 3 0
	24	296	1/6	22 4 0
	20	282	2/-	28 4 0
	8	92	2/6	11 10 0
	1	6	3/-	0 18 0
	4	37	3/6	6 9 6
	3	25	4/-	5 0 0
1927,	118	1,361		£105 8 6
1925,	17	246	—	£18 11 6
1926,	107	1,407	—	102 2 6

During 1927, 33 individual helps attended 118 cases for a total of 1,361 days, or an average of 11.5 days per case. The amount recovered in fees was £105 8s. 6d. The helps are remunerated at the rate of 5s. per day, so that the balance falling to be met by the Corporation was £234 16s. 6d.

MATERNITY BUNDLES.

The scheme for supplying maternity bundles in necessitous cases was continued during the year, the materials as explained in the Report for 1925 being supplied by the Corporation. During 1927, 335 persons were supplied with bundles or part bundles compared with 116 during the preceding year. This increase is probably due to the fact that in 1926 the parish authorities supplied clothing in many instances where relief was being given. During 1927, however, many persons in receipt of benefit from the Labour Bureau were struck off the parish lists. The amount of money collected as part payment of the bundles during 1927 was £19 8s. 1d.

Apart from the clothing issued under the above arrangement, a number of gifts were received from interested ladies and sewing classes throughout the year, and these were distributed to necessitous cases in attendance at the Child Welfare Centres to which the gifts had been forwarded by the donors.

DAY NURSERIES.

Including the Phœnix Park Kindergarten, there are, as in previous year, six Centres with nursery accommodation. The total attendances of children at these Centres during 1927 was 36,522, in comparison with 38,620 during the previous year.

The following figures show the number of attendances, &c., at each Centre during the year:—

Nursery	Number of Days open	Total Attendances during the year	Average	Maximum number in one day
Bridgeton, ...	255	7,129	28	39
Cowcaddens, ...	253	6,849	27	34
Phœnix Park Kindergarten.	181	4,378	24	31
Milton, ...	232	6,974	30	40
Hutchesontown, ...	251	6,149	24	34
Kingston, ...	215	5,043	23	30

The numbers attending at Milton Day Nursery are somewhat lower than for the previous year, owing to an outbreak of whooping cough in the Autumn and chickenpox in December, while at Cowcaddens the attendances were low during the last two months of the year, owing to the prevalence of measles in the neighbourhood. Three voluntary helpers now attend the nursery at Cowcaddens, and prove very useful in teaching the children games, &c., and assisting generally.

The kindergarten at Phœnix Park has been run on voluntary lines, since it was transferred to the Corporation 10 or 12 years ago, under the superintendence of Miss Anderson. A very excellent paper by her on "The Nursery School," which is too long for inclusion here, has been published in the May issue of the Journal, "National Health."

JUVENILE UNEMPLOYMENT CLASSES, &c.

The arrangement whereby girls from the Juvenile Unemployment Classes attend at certain of the Day Nurseries for training purposes was continued during the year. Each girl receives training in the general care of infants, and in laundry and kitchen work, over a period of one month; and the results of training, as furnished by the report of the matrons, are shown below:—

Training Completed—		
Work Satisfactory, ...	123	
Work Unsatisfactory, ...	2	
		125
Training not Completed—		
Left to take up employment, ...	11	
Attained 18 years and ceased to attend Juvenile Unemployment Classes, ...	1	
Illness, ...	—	
Other reasons (mainly unsuitability for the work), ...	14	
		26
		151

After completion of their period of training one girl was employed as a maid at one of the Centres, three others obtained employment as domestic servants, and another as a children's nurse.

Training was also given at the Day Nurseries to 32 pupils of the College of Domestic Science.

COUNTRY HOMES.

No alteration has taken place in the Country Home accommodation during the year, while the arrangement begun in 1925 for isolating children in South York Street Reception House for observation for infectious disease prior to admission was continued throughout the year.

The number dealt with at the Country Homes during the year is considerably reduced, owing to the fact that from early in November the accommodation at Scotstoun and Mount Blow Country Homes was utilised for the treatment of convalescent children, who had recovered from measles and pneumonia in the fever hospitals, but who, on account of some other complication, could not be returned to their homes without further treatment. This procedure was of considerable advantage, as it relieved from 40 to 50 beds in the fever hospitals at a time of very considerable pressure, owing to the prevalence of infectious diseases. In accordance with this arrangement, 135 convalescent children were admitted to the above two homes from the hospitals up to the end of the year, 82 to Scotstoun and 53 to Mount Blow.

The following analysis shows that 383 children were admitted under the Child Welfare Scheme to the three Country Homes during the year, the two principal reasons for admission being rickets and malnutrition:—

	Mount Vernon	Scotstoun	Mount Blow	Total
Rickets, ...	54	71	73	198
General Malnutrition, and Debility.	9	55	41	105
Bronchitis, ...	4	2	5	11
Debility after acute illnesses,	7	2	15	24
Anæmia, ...	28	7	4	39
Nervousness, ...	—	3	3	6
	102	140	141	383

The dismissals during the year were 107 from Mount Vernon, 140 from Scotstoun, and 180 from Mount Blow. The condition on dismissal is summarised in the following statement:—

	Mount Vernon	Scotstoun	Mount Blow	Total
Much improved, ...	81	105	65	251
Not improved.	—	—	—	—
Parents leaving city, ...	1	4	5	10
Transferred suffering from infectious disease, ...	12	12	10	34
Taken home by parents (fretting, &c.), ...	—	4	20	24
Died, ...	—	—	1	1
For admission to other Institutions, ...	—	—	6	6
Sent home, ...	—	15	—	15
Contacts with cases of Infectious Disease sent home,	13	—	73*	86
	107	140	180	427

* All were resident a sufficient period to be markedly improved in general health.

Apart from those dismissed from the Homes for special reasons, 251 were much improved.

Garscube Cottage Hospital.—The arrangement whereby this Home was taken over for the purpose of giving debilitated mothers with young children an opportunity of recuperating their health by a fortnight's rest has been continued. During the year, 143 mothers with 144 infants were admitted, while dismissals numbered 144 mothers and 145 infants, including 1 child who died. Of the total, 83 completed fourteen days' residence, while 11 others were kept in for a few days longer; the remainder (50) left before the end of the fortnight, mostly for domestic reasons. One infant was re-admitted for a period of 8 days.

MATERNITY HOMES.

The Corporation has devolved its powers as Local Supervising Authority for the purposes of Part II of the Midwives and Maternity Homes (Scotland) Act, 1927, on the Child Welfare Sub-Committee of the Health Committee.

Analyses of the registers of notifications of births for the years 1926 and 1927 showed that there were in the City 77 establishments to which the provisions of Part II of the Act might apply, while there were also eight hospitals belonging to the Corporation and the Poor Law Authorities in which births had occurred, but which were excepted from these provisions. To each of the 77 establishments a circular letter was issued, directing attention to the provisions of the Act and also to the Maternity Homes Regulations (Scotland), 1927, issued by the Scottish Board of Health, together with a form of application for registration. In nineteen cases the Authorities in charge of the Homes replied that they had decided not to receive any more pregnant women; for the most part these Homes had not received more than an occasional case. In four others no reply was made either to the original circular or to subsequent reminders, probably for the same reason as the previous group. One Home was closed during January for other reasons. In a few other cases exemption was applied for, but on it being pointed out that it was not likely that the Committee would grant exemption, the form of application for registration was completed. In one case, however, the Authorities of the Home insisted on their application for exemption being submitted to the Committee, who refused exemption, and this Home also has been duly registered.

All the Homes in respect of which an application for registration or exemption was received were visited and reported upon by a member of the medical staff of the Department, and the following shows the action taken by the Committee in regard thereto:—

	Registered	Exempted	Refused registration	Total
Maternity Homes, ...	2	—	—	2
General Infirmaries and Hospitals,	—	5	—	5
Nursing and Maternity Homes,	42	3	1	46
	44	8	1	53

The first effect of the Act has thus been to reduce, from 77 to 52, the number of places into which pregnant women may be received. Exemption has in each case been granted for the period till 31st December, 1928, when a fresh application requires to be made, and when these Homes will again come under review. Registration remains in force until the Home is deleted from the register, and these Homes will be visited as frequently as the circumstances in each case may require.

MIDWIVES (SCOTLAND) ACT, 1915.

The year 1927 is the eleventh of the operation of this Act, and the summaries which follow indicate the work done during the year.

The number of midwives who notified their intention to practise has fallen from 310 to 292, a decrease of 18; of these, 3 resigned, 1 died, 2 left Glasgow, and 3 were struck off the roll. The difference is made up by those who ceased to notify intention to practise.

The principal drop is again amongst the untrained midwives, so that the Glasgow roll now stands at 177 entitled to registration by examination, and 115 who were in practice in December, 1914 (a decrease of 14 in the latter class).

This year again there is a decided fall in the number of births (slightly over 900), with 465 fewer cases attended by midwives.

The still-birth rate for midwives this year is 26·0 per 1,000, and emergency calls for medical assistance is 24 per cent. of the cases attended by them—the same as last year.

Only 9 births this year can be classified as having occurred without skilled attention; 2 were emergency cases where a neighbour officiated; 3 were foundlings; 2 were concealed pregnancies; 1 was attended by an old handy-woman, who was seen and rebuked; and 1 was believed to have been attended by a midwife who had been struck off the roll. The birth occurred in her house, but the story given that the patient had been attended by a woman who went to America immediately after, was persisted in, so that without proof, the matter had to be allowed to drop.

The Board of Health circular, dated 29th July, 1927, dealing with the notification of puerperal fever is probably responsible for the apparent slight increase in the incidence of the disease (from 11·9 to 15·0 cases per 1,000 births).

This is borne out by the fact that the midwives figures are practically stationary (8·8 to 8·4 per 1,000 births), while the doctors' have increased from 10·3 to 14·6.

The following tables summarise the numbers for the year, with relative figures for the two preceding years:—

	1925	1926	1927
Midwives in Practice during year, ...	307	310	292
THE QUALIFICATIONS FOR CERTIFICATION UNDER ACT, HELD BY THE FOREGOING WERE—			
In Practice, December, 1914, ...	131	129	115
C.M.B. (Scotland) Examination, ...	126	133	130
Other recognised qualifications, ...	50	48	47

In the following table some indication is afforded of the number of births attended during the year by individual midwives. It would seem that of the 10,551 births attended by midwives 8,009 occurred in the practice of midwives with 50 confinements or more in the year:—

BIRTHS NOTIFIED BY MIDWIVES.

	Births Notified		1927	
	1925	1926	Births	Midwives
Under 50 Notifications, ...	2,783	3,002	2,542	174
50-100 ,, ...	2,625	2,599	3,038	44
100-200 ,, ...	4,551	3,604	3,801	28
200-300 ,, ...	1,639	1,811	1,170	5
300-400 ,, ...	308	—	—	—
Over 400 ,, ...	—	—	—	—
	11,906	11,016	10,551	251

STILL-BIRTHS NOTIFIED BY MIDWIVES.

	Midwives			Still-Births notified		
Notifications	1925	1926	1927	1925	1926	1927
1-5, ...	119	95	108	251	200	233
6-10, ...	8	12	6	59	83	41
11-15, ...	2	—	—	24	—	—
Over 15, ...	—	—	—	—	—	—
	129	107	114	334	*283	†274
Percentage of Births attended, ...				2·8	2·6	2·6

* In 86 cases, Doctors assisted.
† In 81 ,, ,, ,,

The figures in the two following summaries contain records of ophthalmia occurring in the practice of midwives, so that the numbers are not the same as the actual cases referred to in other sections of this report:—

CASES OF OPHTHALMIA NEONATORUM OCCURRING IN PRACTICE OF MIDWIVES.

	Midwives			Cases notified		
Notifications	1925	1926	1927	1925	1926	1927
1-5, ...	93	76	83	209	165	180
6-10, ...	17	20	14	125	149	101
11-15, ...	2	7	4	27	83	55
16-20, ...	2	3	2	35	52	34
21-25, ...	1	2	2	22	45	45
Over 25, ...	—	—	—	—	—	—
	115	108	105	418	494	415
Percentage of Births attended, ...				3·5	4·5	3·9

CASES OF PUERPERAL FEVER OCCURRING IN PRACTICE OF MIDWIVES.

	Midwives			Cases		
	1925	1926	1927	1925	1926	1927
1 Case, ...	45	41	43	45	41	43
2 Cases, ...	14	15	12	28	30	24
3 ,, ...	3	6	3	9	18	9
4 ,, ...	2	1	2	8	4	8
5 ,, ...	—	1	1	—	5	5
	64	64	61	90	98	89

NUMBER OF REQUESTS FOR ASSISTANCE TO MEDICAL PRACTITIONERS IN CASES OF EMERGENCY UNDER RULE.

Notifications	Midwives			Requests made		
	1925	1926	1927	1925	1926	1927
Under 10, ...	111	110	106	466	417	427
,, 20, ...	38	45	47	522	609	641
,, 30, ...	24	26	20	580	608	477
,, 40, ...	15	8	10	511	275	354
,, 50, ...	5	8	8	207	341	344
Over 50, ...	5	8	4	330	497	225
	198	205	195	2,616	2,747	2,468

During the year there were 2,468 occasions on which medical help was called by midwives, which represents 23 per cent. of the total births occurring in the practice of midwives, and compares with 25 per cent. in 1926 and 22 per cent. in 1925. Details of the nature of emergency are not given this year, but the following indicates the period during which medical assistance was called:—

NATURE OF EMERGENCY.	1925	1926	1927
In all cases in which a woman during pregnancy, labour, or lying in appears to be dying or is dead, ...	6	3	3
PREGNANCY.—In cases of a pregnant woman, where there is any abnormality or complication, ...	168	186	131
LABOUR.—In the case of a woman in labour at or near term, when there is any abnormality or complication, ...	1,671	1,752	1,607
LYING-IN.—In the case of a lying-in woman, when there is any abnormality or complication, ...	261	303	259
THE CHILD.—In the child, when there is any abnormality or complication, ...	485	480	452
Cannot be classified, ...	25	23	16
Total, ...	2,616	2,747	2,468

DEATHS (NOTIFIED BY MIDWIVES) BEFORE A DOCTOR WAS IN ATTENDANCE, ...	1 mother	24 infants
LAYING OUT THE DEAD, ...	— adults	5 infants
ARTIFICIAL FEEDING, ...		32 Notifications

Intimation of Exposure to Infection.

Diseases	1925	1926	1927
Puerperal Fever, ...	67	74	59
Measles, ...	9	32	11
Whooping-Cough, ...	4	2	—
Scarlet Fever, ...	4	10	11
Diphtheria, ...	3	3	6
Influenza, ...	—	1	—
Pneumonia, ...	5	10	4
Erysipelas, ...	—	—	2
Enteric, ...	1	1	—
Chickenpox,...	1	1	5
Others, ...	5	4	5
	99	138	103

Fees to Doctors in Emergency Cases.—In the following table the total amount of accounts for the year ending November is shown, that being the period at which doctors' accounts are made up:—

Year ended November, 1922,	...	...	£2,040	7	0
Do. do., 1923,	...	...	1,829	17	0
Do. do., 1924,	...	...	1,229	0	0
Do. do., 1925,	...	...	1,416	18	0
Do. do., 1926,	...	...	1,610	4	6
Do. do., 1927,	...	...	1,456	11	6

The practice of issuing accounts with the object of recovering some part of the fee, which was begun as from June, 1922, has been continued, and during the past year £340 8s. has been so recovered, while £21 0s. 6d. was withdrawn from medical practitioners' accounts, and accounts for £12 3s. 6d. were deleted.

OPHTHALMIA NEONATORUM.

During the year 1927, 652 cases of ophthalmia neonatorum were notified, compared with 665 in 1926 and 615 in 1925. These numbers represent rates of 27·3, 26·8, and 24·0 respectively of all births registered. Particulars of these years are given in the following table, according to attendance at birth, which would seem to indicate that a greater number of cases were reported by nurses and midwives.

OPHTHALMIA NEONATORUM CASES AND CASE-RATES PER 1,000 BIRTHS.

NOTIFIED BY		CASES.			RATES.*		
	Year	1925	1926	1927	1925	1926	1927
Doctors, ...		44	35	33	6·1	5·0	4·8
Institutions, ...		41	53	46	14·1	15·2	14·1
Inst. Nurses, ...		113	82	154	29·2	23·4	45·4
Midwives, &c., ...		416	495	417	35·9	45·8	40·4
Regd. by P.H.D. Staff, ...		614	665	650	—	—	—
Removed, ...		1	—	—	—	—	—
Beyond Boundary, ...		—	—	2	—	—	—
Total cases of Ophthalmia Neonatorum, ...		615	665	652	24·0	26·8	27·3

* Calculated on Live Births notified, less duplicates. "Doctors found in attendance" are included in "Doctor in attendance," and deducted from "Midwives, &c."

Of the total cases 42 of the more severe type were removed to hospital, and the others were treated at home or at Child Welfare Centres by the nurses, who made 3,636 visits in this respect.

The period at which symptoms appear is given in the following summary, which shows considerable uniformity with regard to the interval after birth at which ophthalmia develops:—

Cases occurring at Age—	1925	1926	1927
– 12 hours, ...	63	52	47
– 4 days, ...	208	262	234
– 8 ,, ...	226	227	215
+ 8 ,, ...	117	124	154
	614	665	650

Association with Syphilis.—Swabs of the discharge from eyes are obtained from as many cases as possible for examination for gonococcus, and the results are shown in the following table, together with information as to association with clinical syphilis, verified by bacteriological tests or otherwise. Of the swabs examined for gonococcus only, about 11 per cent. proved positive, compared with 13 per cent. for the previous year.

Among the gonococcal cases only two were associated with syphilis, and one also among the non-gonococcal cases:—

	GONOCOCCAL.			NON-GONOCOCCAL.			UNCLASSIFIED.			TOTAL		
	Total Cases	Syphilis present	Per Cent. with Syphilis	Total Cases	Syphilis present	Per Cent. with Syphilis	Total Cases	Syphilis present	Per Cent. with Syphilis	Total Cases	Syphilis present	Per Cent. with Syphilis
1925,	32	1	3·1	366	2	0·5	216	—	—	614	3	0·5
1926,	59	1	1·7	395	1	0·3	211	—	—	665	2	0·3
1927,	47	2	4·3	364	1	0·3	239	—	—	650	3	0·5

Although the number of cases of ophthalmia neonatorum reported is relatively higher than that of the preceding year, those of gonococcal origin are fewer, there being 47 cases during 1927, compared with 59 in 1926. The number of cases of gonococcal ophthalmia represents a rate of 2·0 per 1,000 of all births occurring during 1927, compared with 2·4 in 1926. In 1919 the rate was 10·34.

Gonococcal Cases.—The results of treatment of this group of cases were very satisfactory. Of the 47 cases, all recovered with no corneal defect or blindness, with the exception of 4, who died.

Non-Gonococcal Cases.—Of this group 358 recovered without defect, and corneal scar occurred in only one case, whose sight was not impaired, and one with impaired vision of one eye. There was no instance of scarring or blindness of both eyes:—

	1925		1926		1927	
RESULT.	No Syphilis	Syphilis Present	No Syphilis	Syphilis Present	No Syphilis	Syphilis Present
GONOCOCCAL—						
No Corneal Scar, ...	25	1	51	1	41	2
Corneal Scar remaining						
In one eye—						
Sight not impaired,...	3	—	2	—	—	—
,, impaired, ...	—	—	—	—	—	—
Blind, ...	—	—	2	—	—	—
In both eyes—						
Sight not impaired,...	—	—	—	—	—	—
,, impaired, ...	—	—	—	—	—	—
Blind, ...	—	—	—	—	—	—
Removed, ...	1	—	—	—	—	—
Died, ...	2	—	3	—	4	—
	31	1	58	1	45	2

Result.	1925		1926		1927	
	No Syphilis	Syphilis Present	No Syphilis	Syphilis Present	No Syphilis	Syphilis Present
NON-GONOCOCCAL—						
No Corneal Scar, ...	354	—	385	1	358	—
Corneal Scar remaining						
In one eye—						
Sight not impaired,...	2	—	1	—	1	—
,, impaired, ...	1	—	—	—	1	—
Blind, ...	1	1	—	—	—	—
In both eyes—						
Sight not impaired,...	—	—	—	—	—	—
,, impaired, ...	—	—	—	—	—	—
Blind, ...	—	—	—	—	—	—
Removed, ...	1	—	—	—	—	—
Died, ...	5	1	8	—	3	1
	364	2	394	1	363	1
UNCLASSIFIED—						
Cured, ...	212	—	206	—	239	—
Corneal Scar remaining						
In both eyes—						
Sight not impaired,...	1	—	—	—	—	—
Died, ...	3	—	3	—	—	—
Removed, ...	—	—	2	—	—	—
	216	—	211	—	239	—
Total, ...	611	3	663	2	647	3

PUERPERAL FEVER.

The number of cases occurring annually in the City has averaged around 300 during recent years. Calculated on the births it would seem that the cases are increasing, but if the morbidity rate be taken as an index, there is reason to believe that less acute conditions, which were formerly not recorded, are now being brought to the notice of the department.

The following table summarises the cases and mortalities, &c., during the past seven years:—

	Cases	Deaths	Case Mortality per cent.	Cases per 1,000 Births	Deaths per 1,000 Births
1921,	321	72	22·4	10·8	2·4
1922,	294	94	32·0	10·4	3·3
1923,	278	72	25·9	10·4	2·7
1924,	239	61	25·5	9·5	2·4
1925,	300	68	22·7	11·8	2·3
1926 (old city),	307	69	22·5	12·6	2·8
1927,	277	61	22·0	11·7	2·6

Considerable attention is being given to the incidence, prevention and treatment of puerperal fever, but little has emerged having a direct bearing on administration. There is no doubt that early recognition, notification and treatment are essential factors. Glasgow has accommodation for all such patients, and has concluded arrangements with a number of other authorities for the treatment of their patients. The Scottish Board of Health has issued a circular drawing attention to various aspects of puerperal fever, its diagnosis and prompt notification, which has been sent to all practitioners in the City. An important and valuable analysis of the patients admitted to Belvidere Hospital is given by Dr. Walker in the report for Belvidere Hospital, incorporated in Part II of this volume.

The following table gives an analysis of the cases and deaths during 1927 in relation to attendances at birth:—

PUERPERAL SEPSIS—CASES AND DEATHS OCCURRING IN GLASGOW DURING THE YEAR 1927.

	Births	Total Cases.	Cases per 1,000 Births.	Deaths.	Deaths per 1,000 Births.	Case Mortality per cent.
Doctors' cases, ...	7,140	104*	14·6	19	2·7	18·3
Midwives' Cases, ...	10,601	89†	8·4	18	1·7	20·2
Maternity Hospital—						
Outdoor, ...	3,486	31	8·9	6	1·7	19·4
Indoor, ...	2,739	24	8·8	13	4·7	54·2
Govan Cottage Hospital,	186	3	16·1	1	5·4	33·3
Parish Hospitals—						
Eastern District, ...	242	3	12·4	1	4·1	33·3
Western do., ...	172	1	5·8	—	—	—
Stobhill, ...	447	2	4·5	—	—	—
Barnhill, ...	26	1	38·5	—	—	—
No one (Abortions), ...	—	15	—	3	—	—
Beyond City, per Glasgow Institutions, ...	—	4	—	1	—	—
Institutions and others with no cases, ...	128	—	—	—	—	—
Total, ...	25,167	277	15·0	62	2·5	16·4

*In 8 cases assisted by Midwives. †In 20 cases assisted by Doctors.

In the above table the births given include 275 occurring in institutions in the City, but transferable to areas outwith Glasgow. For 32 additional notifications changed diagnoses were received.

REFRESHER COURSE FOR HEALTH VISITORS.

At the request of the Scottish Board of Health, a Refresher Course for Health Visitors was held here from 25th April to 5th May, 1927. Particulars of this course were published in a circular, dated 15th March, 1927, issued by the Board.

Lectures were given in the lecture hall at the Sanitary Chambers, and demonstrations were arranged at the various Centres. Opportunities were given for each of the nurses attending the course, taking part in all the work outlined in the syllabus, the amount of practical work being only limited by the time available. In all, 14 nurses from this department, and 16 from outside authorities and nursing associations, some as far north as Lewis, and as far south as Dumfries, attended the course, which proved very successful and served the purpose intended.

Lectures were given by Professors J. Hendry and Leonard Findlay, and by Drs. Herbert Brown, Gavin Young, and Hugh Mackay, Dr. Ernest Roberts and Dr. Arbuckle Brown of the Education Authority, and by several of the Medical Staff of the Department.

SECTION IV.

INFECTIOUS DISEASE.

The most satisfactory feature during 1927 was the reduction in the incidence of scarlet fever. The decrease in the rate per million of the population, from 4,252 to 3,641, was, however, counter-balanced by the increase in diphtheria, from 2,082 in 1926 to 2,685.

The increased incidence of the enterica group of diseases since 1925 is somewhat marked, but the numbers occurring in 1927 were affected by an outbreak of paratyphoid B, associated with a milk supply, which will be referred to later.

The incidence of puerperal fever has been dealt with in the previous section of this Report.

The group "other diseases" has remained fairly uniform, the rate being about 30,000 per million during the past four years. The alternating prevalences of measles and whooping-cough have a steadying influence on this figure, as pneumonia, which is also included in this group, although varying in its incidence, is not subject to the same fluctuations; in other words, it does not vanish to the same extent as the other two diseases mentioned, probably because the immunity conferred by an attack is only transient.

The case rates per million for each of the diseases is given in Table XVIII of the Appendix, while the respective numbers of cases treated in hospital and at home are contained in Table XVII. The seasonal incidence is contained in Table XIX, which gives the numbers of cases occurring in each month of the year.

No new diseases were added to the list during the year.

The case rates are here summarised for certain of the diseases since 1913:—

GLASGOW.—CASE-RATE PER MILLION OF THE POPULATION FOR ALL CASES OF INFECTIOUS DISEASES REGISTERED SINCE 1913.

YEAR	Typhus Fever.	Enteric Fever.	Continued and Undefined.	Puerperal.	Smallpox.	Scarlet Fever.	Diphtheria and Membranous Croup	Cerebro-Spinal Fever.	Phthisis.	Non-Pulmonary Tuberculosis.	All Others.	TOTAL.
1913,	39	232	7	144	...	4,005	1,934	35	2,552	...	26,247	35,195
1914,	18	340	7	206	...	5,337	1,440	45	2,284	1,088[1]	21,675	32,440
1915,	9	248	5	175	...	5,973	1,257	167	2,169	1,375	25,389	36,667
1916,	17	158	8	178	...	3,719	1,220	131	2,285	1,270	17,001	25,987
1917,	1	82	4	148	...	1,634	1,146	75	2,435	1,433	27,005	33,963
1918.	49	128	12	151	1	1,193	1,379	67	2,258	1,273	16,045	22,556
1919,	30	103	8	163	5	2,443	1,626	72	1,834	1,083	21,359	28,726
1920.	8	204	13	267	477	3,378	1,809	76	2,009	1,063	25,509	34,813
1921,	6	100	7	299	19	3.272	1,727	56	1,902	1,061	23,965	32,414
1922,	18	79	6	272	...	3,212	1,561	62	1,806	970	31,419	39,405
1923,	2	116	20	255	...	3,277	1,623	59	1,584	1,133	25,453	33,522
1924,	...	75	17	216	2	2,905	1,733	60	1,669	1,114	30,259	38,050
1925,	...	40	8	273	...	3,472	1,581	56	1,457	1,016	30,959	38,862
1926,*	7	91	4	279	...	4.252	2,082	60	1,572	907	31,430	40,684
1927,	...	131	4	245	...	3,641	2,685	70	1,435	974	30,870	40,055

[1] Non-pulmonary tuberculosis made compulsorily notifiable, July, 1914.

*Rates for 1926 are for City area before extension.

Notes on prevalence, &c., of the various diseases are given in the following pages.

DISEASES FORMERLY CALLED "PRINCIPAL ZYMOTIC DISEASES."

The death-rates for several periods have been:—

1881-90,	3·600	per 1,000 living.	1922,	1·997	per 1,000 living.
1891-1900,	3·282	,,	1923,	1·457	,,
1901-1905,	2·660	,,	1924,	1·702	,,
1906-1910,	2·450	,,	1925,	1·245	,,
1911-1915,	2·424	,,	1926,	1·233	,,
1916-1920,	1·607	,,	*1927,	1·127	,,
1921,	1·116	,,			

* Diarrhoea over 2 years excluded.

In this comparison only those infectious diseases that have been notifiable for most of the period given are included.

SMALLPOX AND VACCINATION.

Smallpox.—It is satisfactory to record that no case of smallpox occurred in the City during the year, despite the fact that the disease, apparently of a modified type, has become prevalent in the Midlands and North of England. Chickenpox has been continued as a notifiable disease, and, as a precautionary measure, the medical staff visit and verify the diagnosis in all reported cases where the patient is unvaccinated or over the age of 15 years. Members of the medical staff took the opportunity of studying the prevailing type of smallpox when a small outbreak of the disease occurred in Dundee in the early part of the year.

Vaccination.—The total number vaccinated at the clinics held at Child Welfare Centres in the various districts was 2,351, compared with 2,927 during the preceding year.

The following table shows the numbers of children vaccinated at the various Centres during the past three years:—

STATEMENT SHOWING NUMBER OF INFANTS VACCINATED AT THE CHILD WELFARE CONSULTATIONS DURING THE YEARS 1925-1927.

Centre	1925	1926	1927
Public Health Office, ...	425	512	465
Garngad, ...	80	82	72
Port Street, ...	80	64	85
Maryhill, ...	155	208	176
Govan Town Hall.	124	179	96
Adelphi Street, ...	191	254	215
Partick, ...	115	94	101
Weir Street, ...	190	213	75
Bridgeton, ...	629	917	750
Shettleston, ...	212	162	130
Campbellfield Street.	51	17	—
Cowcaddens, ...	175	105	28
Elder Hospital, ...	104	111	103
Yoker, ...	—	9	9
Springburn, ...	—	—	46
	2,531	2,927	2,351

VACCINATION (SCOTLAND) ACT, 1907.

The following shows the number of declarations of conscientious objection to vaccination made each year since the Act came into operation:—

1907-10 (annual average),	2,119	1921, ...	4,992
1911-15, ”	5,922	1922, ...	5,668
1916, ...	7,013	1923, ...	5,497
1917, ...	7,017	1924, ...	5,090
1918, ...	6,049	1925, ...	5,345
1919, ...	6,489	1926, ...	5,485
1920, ...	4,342	1927, ...	5,254

The number of conscientious objections to vaccination made during the year was 5,254, which is equal to 22 per cent. of the total births registered. This compares with 23 and 21, the respective percentages for the years 1926 and 1925. The highest percentage of objections to vaccination was 41 in Govan Ward, followed by 40 in Fairfield and 37 in Pollokshaws. The lowest percentages were 10 in Kelvinside, 12 in Langside, and 13 in Camphill. Particulars of these are contained in Table XXII of the Appendix.

The following abridged table indicates the percentages before the Conscientious Objection Act came into operation and for the year 1914, when the lowest percentage of successful vaccinations was reached, namely 51·7. During the past four or five years this latter rate has remained steady between 63 and 64 per cent.

Table showing Results of Primary Vaccination of Children born during several years.

(From the Detailed Annual Reports of the Registrar-General).

Year	Successfully vaccinated Per cent.	Insusceptible of vaccine disease Per cent.	Died before vaccination Per cent.	Conscientious objection to vaccination Per cent.	Vaccination postponed Per cent.	Unaccounted for Per cent.
1906,	82·9	0·5	10·6	0·2	0·8	5·0
*	* *	*	* *	* *	*	*
1914,	51·7	0·9	12·1	25·1	1·8	8·4
*	* *	*	* *	* *	*	*
1923,	63·9	1·2	8·1	21·0	1·8	4·0
1924,	64·5	1·5	8·4	19·9	1·8	3·9
1925,	63·0	1·3	8·4	22·0	1·8	3·5

TYPHUS FEVER.

No case of typhus fever has occurred since eight cases were registered in 1926. These, as a matter of fact, have been the only cases in the City since 1923.

ENTERICA INFECTION.

Cases notified during the year numbered 193. Of 148 cases verified 38 were B. typhosus and 110 paratyphoid B.

There was an increase in the number of cases in the enterica group of diseases, 148 cases being confirmed as compared with 100 during 1926. This higher prevalence was caused by a milk outbreak of paratyphoid B infection in the Northern Division described in a later paragraph, and which involved 62 patients. If the milk outbreak had not occurred, the cases of paratyphoid B would have been 48 instead of 110, and the total enterica incidence would have been reduced to 86, which, however, is not much less than the incidence during the previous year.

The cases treated at home numbered 18, of which 16 were paratyphoid B and 2 were B typhosus infections. They were almost all of a fairly mild type, in which institutional treatment was not required.

The following table shows the number of cases in connection with which bacteriological examinations were made, the total number of home contacts, etc., and the number found positive.

CONTACTS.

	Enteric Fever.	Paratyphoid (B).	Totals.
Number of verified cases, ...	38	110	148
Number of cases in connection with which urine and fæces were examined,	21	72	93
Number of contacts + 10 years, ...	120	336	456
Number of contacts – 10 years, ...	28	123	151
Total number of contacts, ...	148	459	607
Number of contacts examined, ...	115	140	255
Number found positive, ...	1	1	2

Of the contacts found positive, the following details are given :—

(*a*) A mother (*æt.* 54) of a patient was found to have B typhosus in the excreta in March, 1927. No history of a previous attack was obtained. The other members of the family were protected by inoculation, and the mother had three injections of B typhosus vaccine, but refused to submit to further treatment. The excreta examined later in June were found to be negative.

(*b*) A brother (*æt.* 46) of a patient was found to have B paratyphosus in the excreta. Inquiry revealed that he had had a mild attack of paratyphoid B, and he was removed to hospital.

The cases where the source of infection was traced are :—

1.	Due to milk epidemic in Northern Division, ...	Para. B. ...	62
2.	Institutional outbreak, ...	,, ...	8
3.	Due to "Food Poisoning" in Northern Division,	,, ...	5
4.	Contracted from mother, ...	,, ...	5
5.	,, ,, ,, ...	B. Typh. ...	1
6.	,, ,, brother, ...	Para. B. ...	1
7.	Laboratory infection, ...	B. Typh. ...	1
			83

Notes on above groups are as follows :—

(2.) The institutional outbreak was due to a mild case of paratyphoid B admitted to a children's ward as suffering from a respiratory disease. Before the true nature of the infection was recognised eight other cases were infected. (3.) The five cases of paratyphoid B traced to food poisoning are dealt with in a later note. (4.) These five cases, also of paratyphoid B, were all members of the same family who were infected by the mother, between 1st and 3rd October, 1927. Enquiry showed that the mother had had a mild ambulant attack of the disease, the date of sickening being September 10th, and her blood was found to give a positive Widal reaction. From the fact that the five patients sickened within three days, it is very probable that the mother, who prepared all the food, had infected some article of diet with B. paratypsosus B. (7.) The laboratory infection was an instance of a doctor who, before sickening with B. typhosus, had been working with cultures of the same organism.

The proportion of cases where the infection was traced is 83 out of 148, *i.e.*, 56 per cent. This leaves 65 cases where no source of infection was found. These cases must have been infected from other cases, and it is surprising that in the bacteriological examination of such a large number of home contacts so few positive results were obtained. Indeed, by bacteriological examination of contacts there were determined only three sources of infection which accounted for eight cases. The explanation is probably due to (*a*) the long period between the date of infection and the recognition of the case—as a rule about three weeks—so that when a search is made for the source of infection "the scent is cold," and (*b*) the fact that in many mild cases of enterica disease the organisms are present in the intestinal tract for only a short time.

It is known that in chronic carriers occasionally no history of an attack of the disease can be found. It is conceivable that individuals may be temporarily infected by doses too small to cause an actual attack, but yet sufficient to render the individual a temporary carrier, and also to confer on him an immunity to enteric as shown by a positive widal reaction.

It is noteworthy also that during 1927 no cases were found to have been infected by a carrier, and it is perhaps worth recording that an elderly female who was first recognised as a chronic carrier in 1923 still harbours B. typhosus.

The age and sex incidence of both B. typhosus and paratyphoid B cases is shown in the following table:—

	-5	-10	-15	-20	-25	-35	-45	-55	-65	65+	Total.
Males, - -	13	8	19	6	8	17	9	7	3	2	92
Females, -	8	7	7	7	6	12	2	6	1	—	56
Both Sexes,	21	15	26	13	14	29	11	13	4	2	148

It is seen that most cases have occurred in childhood and early adult life, only 30 cases having arisen in those over 35 years of age. A greater incidence in the male sex, 62 per cent., as compared with the female sex, 38 per cent., is also to be noted.

Distribution throughout the City.—The important factor in determining the distribution was the milk outbreak of paratyphoid B in the Northern Division, which afflicted Ward 19 (Ruchill) to the extent of 59 cases. Ward 27 (Gorbals) follows with 10 cases, 6 of which were paratyphoid B infections in one house, as previously described. In nine wards of the city no enterica cases were registered.

Place of Infection.—The 62 cases involved in the milk epidemic of paratyphoid B in the Northern Division owed their infection to a farm outwith the City boundary. There were 14 other cases where it was found that the patient had been infected outside the City. The place of infection was as follows:—Scotland (excluding Glasgow), 10; Ireland, 2; England, 1; and Buenos Ayres, 1.

Paratyphoid Fever in Possilpark.—During August and early September a number of cases of paratyphoid B fever of a mild type occurred in the Possilpark district, while several cases occurring in other districts during this period were found to be associated with the outbreak. In all, 67 cases were discovered, some of whom had completely recovered, but it is probable that a number of cases were not traced, as the illness appears to have been on the whole of a mild type, and therefore sometimes unrecognised by the patients. Forty-seven of these 67 cases were admitted to hospital; the others, having completely recovered, were left at home under observation.

In addition, some 40 other persons who had suspicious histories were kept under observation, but were not proved to have suffered from the disease. (These were in addition to contacts of known cases, and members of dairy staffs, who had no suspicious histories.)

Two deaths occurred, both in young children debilitated as the resurt of a recent attack of measles; in the majority of the cases the symptoms were not severe, being in some cases regarded as an attack of influenza, and this increased the difficulty of tracing recovered cases.

The symptoms of onset varied greatly, the most common being feverishness and headache. There occurred, for instance:—Feverishness, 41 cases; headache, 46; vomiting, 20; abdominal pain, 29; weakness or prostration, 20; diarrhœa, 25; constipation, 9; sore throat, 3; diagnosed as "influenza," 10.

In 5 cases, headache appeared to be the only symptom, and in 1 case abdominal pain. One of the cases with headache only has proved to be a "carrier," and this indicates a potential source of future trouble due to untraced cases.

The earliest case which was traced sickened about the end of the first week in August, and the last case on 29th August; subsequent cases were regarded as being the result of contact. The dates of sickening are shown in Table I, and the age and sex incidence in Table II. It will be noticed that the chief incidence was between the 12th and 17th August, and between the 20th and 22nd. Taking fourteen days as the average period of incubation, this would seem to indicate that the infection was present in the milk supply about the last week in July and the first week in August, but as noted later it was impossible to ascertain this exactly. It may be noted, however, that a patient from the country, who was visiting in the district from the 2nd to 6th August, and consumed the suspected milk between these dates, sickened on 16th August. In another case which sickened on 22nd August, the suspected milk had been stopped from the 12th August inclusive.

A large number of visits was made by medical officers and by inspectors in connection with the outbreak; specimens of blood and 238 other specimens were examined in the Public Health Laboratory besides examinations carried out in hospital.

Subsequent examinations have been made of all the definitely diagnosed cases in the district, with the result that one carrier has been discovered, and is being kept under observation; no subsequent cases have been traced to this carrier.

Attention was first drawn to the presence of the outbreak by a request on 22nd August for a consultation by a local practitioner, who stated that he had under observation several similar cases. Another local practitioner also reported several cases of continued fever, with more or less similar symptoms. Two patients had been admitted to hospital with a tentative diagnosis of enteric fever. A list of suspicious cases was obtained, and visitation begun.

The histories and symptoms of these cases were more or less similar, and indicated the presence of illness resembling enteric fever, probably paratyphoid fever, and specimens of blood, &c., were obtained and submitted to the laboratory for a report, several of the patients who were ill being admitted to hospital for observation. Enquiries were made to discover a possible source of infection, and it was found that the only factor common to all the cases was that they obtained their milk supply from a local dairy. Enquiry at the dairy showed that milk was obtained from two sources—

(1) A variable quantity of pasteurised milk from a creamery in the City; and

(2) about 80 gallons (unpasteurised) each morning from two adjacent farms situated in the County of Dunbarton.

As the latter was possibly the source of infection, it was suggested that it should be stopped pending investigation, and the County Medical Officer of Health was notified of the circumstances. He made preliminary investigations at the farm, but did not find anything suspicious at that time, and the supply was resumed for a few days on condition that the milk was pasteurised.

Meanwhile the employees at the dairy concerned were investigated, and specimens obtained from the dairy staff and certain of the milk carriers who had suspicious histories, the latter being suspended pending investigation. Several of these were found to give positive reactions, but from comparison of the dates on which they sickened, it was found that they must have been infected in the ordinary course of the epidemic, and no cases among the customers to whom milk was delivered could be traced to infection from a milk carrier. These carriers were not allowed to resume work until bacteriological examination had shown that they were free from infection.

In the meantime the blood of one of the persons in the second of the suspected farms had been found to give a positive result for paratyphoid B, and on 29th August specimens were obtained from the remaining five dairy workers. Four of the five specimens were found to give a positive result for paratyphoid B, and in view of this the County Medical Officer of Health stopped the milk supply on 30th August, under Section 18, Sub-section 3, of the Milk and Dairies (Scotland) Act, 1914; it was not resumed till 25th September.

During this period further investigation was made by the County Medical Officer of Health, and indefinite histories of illness with diarrhœa apparently early in August were obtained from two of the employees. He stated, however, that it had not been possible to get any more definite information as to the original source of the infection.

There is a possibility that, as a certain amount of casual labour was employed during June and July in connection with hay-making, the original source of infection on the farm may have been an itinerant carrier.

The outbreak, as usually happens in paratyphoid infections, was well under weigh before its true nature as a milk-borne infection was realised. The earlier patients were locally treated for influenza, food poisoning, and other conditions. As soon as the nature and source of the outbreak was recognised, the distributors of the milk readily agreed to stop the supply pending full investigation. The extremely mild nature of the infection at the farm and the reluctance of the employees to admit that they had had mild illnesses added to the difficulties of detection. Five out of the seven employees, however, had positive blood reactions to the paratyphoid bacillus, thus exhibiting evidence of infection, slight and transient though the symptoms were. The stoppage of the milk, until they could be declared, after observation, free from infection, was thus rendered necessary.

TABLE I.

DATE OF SICKENING.

Date	Total Cases	Contact Cases	Date	Total Cases	Contact Cases
Aug. 6	2*	...	Aug. 25	1	...
,, 7	1	...	,, 26	2	...
,, 8	1	...	,, 27	1	...
,, 9	3	...	,, 28	...	...
,, 10	2	...	,, 29	1	...
,, 11	...	...	,, 30	...	...
,, 12	6	...	,, 31	2	2
,, 13	5	...	Sept. 1	2	2
,, 14	4	...	,, 2	1	1
,, 15	6	...	,, 3	...	...
,, 16	2	...	,, 4	1	1
,, 17	3	...	,, 5	...	...
,, 18	1	...	,, 6	2	2
,, 19	1	..	,, 7	1	1
,, 20	7	...	,, 8	...	...
,, 21	2	...	,, 9	...	...
,, 22	3	...	,, 10	1	1
,, 23	..	...	,, 11	1	1
,, 24	2	...			
				67	11

* Possibly two or three days later.

TABLE 2.

CASES IN AGE GROUPS.

	-1	-5	-10	-15	-20	-25	-30	-35	-40	-50	-60	60+	Total
Males, ...	...	5	5	10	5	2	5	3	2	1	1	1	40
Females, ...	1	2	6	6	4	3	2	1	1	1	...	...	27
Total,	1	7	11	16	9	5	7	4	3	2	1	1	67

Hawkhead Asylum.—The outbreak of enteric fever at Hawkhead Asylum, associated with carrier cases in the institution, which had formerly given rise to much administrative difficulty, appears now to be under definite control. As the result of a consultation early in the year with the Medical Superintendent, a routine procedure was finally adopted for the detection and control of suspected carriers. The arrangements made were that the blood of all new patients should be examined on admission, and those giving a positive reaction should be segregated for repeated examination of urine and fæces.

The previous known carriers have been segregated, and a special observation ward is being erected in the institution for this purpose. During the year one case of enteric fever occurred. This patient, a female, aged 29, had been an inmate of the asylum for five years, and the actual source could not be traced. Apart from this, the last case of enteric fever in the institution had occurred 20 months previously, and the last case in the same ward 2½ years previously. In pursuance of the arrangements made, the number of specimens examined in the City Laboratory was 95 blood examinations, and 74 examinations of urine and fæces.

At present there are in the Asylum 11 definite carriers, and also 60 other patients showing a positive Widal reaction.

The following table of death-rates since 1881 shows the marked decline which is taking place in this affection:—

1881-1890, ...	·230	per 1,000	1922, ...	·011	per 1,000
1891-1900, ...	·215	,,	1923, ...	·013	,,
1901-10, ...	·127	,,	1924, ...	·005	,,
1911-15, ...	·058	,,	1925, ...	·013	,,
1916-20, ...	·023	,,	1926, ...	·015	,,
1921, ...	·016	,,	1927, ...	·009	,,

SCARLET FEVER.

The number of cases of scarlet fever registered during the year was 4,117, of which 3,803, or 94 per cent., were treated in hospital. This is a slightly lower percentage than has obtained in recent years, as owing to the increasing prevalence of diphtheria, and the early occurrence of a measles epidemic in the late months of the year, as many cases as possible were treated at home. The home circumstances in all but a very small proportion of cases are, however, quite unsuitable for the purpose.

Scarlet fever was much less prevalent during 1927, when the case rate was 3,641 per million of the population, compared with 4,252 in 1926, when the disease reached a maximum in its periodic wave, apart from the seasonal prevalence at the beginning of November. Particulars of case rates, &c., are given in Appendix Tables XVII, XVIII, and XIX.

The wards most severely affected were Gorbals, Hutchestown, and Provan. Of the total cases, 1,801 were males and 2,316 females, the cases occurring among the latter, at ages 20 to 45, being double the number of males.

The death-rate from this disease since 1881 is shown in the following table:—

1881-90, ...	·490 per 1,000	1922, ...	·069 per 1,000
1891-1900,	·295 „	1923, ...	·066 „
1901-10, ...	·116 „	1924, ...	·073 „
1911-15, ...	·163 „	1925, ...	·062 „
1916-20, ...	·060 „	1926, ...	·081 „
1921, ...	·050 „	1927, ...	·039 „

The fatality rate in 1927 was less than half that for 1926. This reduction is partly explained by the lower incidence of the disease, but proportionately the more general use of serum treatment in hospitals has not been without a favourable influence.

Secondary Cases.—The number of secondary cases is again one per cent. The number occurring within one week after disinfection for a previous case was 34, the second week 13, and 7 over that period.

Return Cases.—The number of return cases—*i.e.*, cases sickening after return of a previous case from hospital—has remained at 2 per cent. of the dismissals during the past ten years. Of the return cases, 50 occurred within one week of the hospital dismissal, 23 within two weeks, and 15 over that period.

The visiting aurist to Ruchill and Knightswood Hospitals, Dr. Gavin Young, submits the following note on the question of return cases of scarlet fever:—

The function of the aurist in the Fever Hospital seems to me to be twofold—(1) To ensure as far as possible that no patient is dismissed from hospital with a discharge from ear or nose which may infect persons who come in contact with him; and (2) to reduce to the desired minimum the period of detention of patients suffering from such discharges.

So far as the first part of the work is concerned, there are apparently patients recovering from scarlet fever who show to the most rigorous examination no active disease in the throat or ear, no discharge from the nose, but who are able, however, to infect persons with whom they come in contact after discharge from hospital. In cases which have come under the writer's observation, these cases have after dismissal suffered from an acute infection in an apparently healthy throat or ear, and the resulting discharge has, of course, proved infective to contacts. Without the removal of tonsils and adenoids from all patients who are suffering from scarlet fever and measles, it appears to the writer that there must always be a certain percentage of patients who will be liable to carry infection.

Under the second heading, where the work done and the consequent results can be balanced, the situation appears more satisfactory. The routine work falls into two main types.

Scarlet Fever and Measles.—The duration of otitis media is found definitely to be shortened by the removal of tonsils and adenoids. This is true also of rhinorrhœa discharge from the nose which so often accompanies these conditions. These complications tend markedly to the lengthening of the period of detention. The removal of tonsils in cases of cervical adenitis is usually followed by a rapid, sometimes a spectacular, recovery in the state of the glands.

DIPHTHERIA AND MEMBRANOUS CROUP.

The periodic prevalence of diphtheria reached its maximum towards the end of 1927. During the year 3,036 cases were registered, all of which were removed to hospital with the exception of 128, or only 4 per cent. of the total cases. Even this small proportion is higher than usual, as with the pressure on hospital accommodation practitioners were requested not to order the removal to hospital of patients bacteriologically positive, but with no clinical signs or symptoms without consultation with the medical officers of the department. In most instances, bacteriological cases of this nature can be kept under observation until the organism has been tested for virulence. Quite a number were so dealt with, and such carriers were isolated at home until negative cultures were obtained from throat swabs.

As shown in Table XVIII in the Appendix, the case rate for diphtheria and membranous croup during the year was 2,685, compared with 2,082 for the preceding year. The wards most heavily affected were Provan with 155 cases, Gorbals with 149, and Whiteinch with 138. 1,359 cases were males and 1,677 females, and as in the case of scarlet fever the females from 20 to 45 years of age were twice as heavily affected as the males.

The following table shows the death-rates per 1,000 living since 1881:—

1881-90,	... ·280	per 1,000 living.	1922,	... ·128	per 1,000 living.
1891-1900,	... ·231	,,	1923,	... ·133	,,
1901-05,	... ·134	,,	1924,	... ·126	,,
1906-10,	... ·205	,,	1925,	... ·103	,,
1911-15,	... ·187	,,	1926,	... ·120	,,
1916-20,	... ·143	,,	1927,	... ·100	,,
1921,	... ·120	,,			

The following note is supplied by Dr. N. Campbell Scott, the visiting aurist to Belvidere and Shieldhall Hospitals:—

This work appears to me to be the most valuable work I do, the beneficial results being both rapid and obvious. Recent cases of otitis media practically all dry up in a very short time, and not only does the discharge cease, but the perforations in the drumhead almost invariably heal, so that recurrence of the otorrhœa should be very unlikely. Every diphtheria carrier referred to me has returned negative swabs as soon as the throat healed after tonsillectomy.

I am therefore surprised to learn that the percentage of return cases apparently due to dismissed patients with nasal or aural discharge has not decreased. I can only suggest that 1925 may have been an exceptionally mild year for scarlet fever, or that these discharges, like desquamating epithelium, are not so infective as has been supposed. Also it may be that the standard of nutrition has fallen during the last few years, and that that has prevented a fall in this percentage.

I have seen quite a number of cases of primary nasal diphtheria in both the scarlet fever and pneumonia wards. I think some of these cases might have been overlooked if not examined by a rhinologist, and so led to cross infection. I might add, however, that during the last two years I have seen a considerable number of cases of primary nasal diphtheria in the other hospitals I visited, the Medical Superintendent of the Royal Hospital for Sick Children having been the first case, whereas before that time I do not remember having seen a single case.

Dr. Gavin Young, the visiting aurist to Ruchill and Knightswood Hospitals, says:—

In cases of persistent infection of the tonsils by the Klebe Lœffler bacillus, removal of the tonsils and adenoids if any is followed in nearly every case by the return of a negative culture within a fortnight. Positive nasal swabs are dealt with by the removal of adenoids or by lavage of the maxillary antra with usually happy results.

Diphtheria in Schools.—The unusual prevalence of diphtheria gave rise to considerable administrative difficulties when schools became invaded. The following instances of school infection are typical of the difficulties encountered:—

(1) *Outbreak in a School in the Village of Nitshill, serving a rural area.*—There occurred between 1st October and 17th January, in association with this school of 216 pupils, 36 cases of mild diphtheria with no fatalities. Of the cases, 24 were scholars, and 12 occurred at home in association with scholars who were either actually infected or were detected to be carriers. On the occurrence of the first six known cases, two of which were second cases in the same households, 181 scholars attending school and 20 absentees were swabbed; 20 of the former (11.1 per cent.) and 3 of the latter (15 per cent.) were found to be positive. Further investigation showed that at the time of swabbing not 6 but 15 cases of diphtheria had actually occurred. The lack of knowledge of these was attributable to the fact that certain cases occurring within the City and 5 cases occurring outside the boundary had not so far been notified. The result of swabbing the scholars and absentees, and of excluding not only the absentees but also the family groups associated with them, was to abort the epidemic as far as the school was concerned, although further cases occurred in association with the known carriers.

The administration of the epidemic was rendered more difficult by a simultaneous outbreak of catarrhal sore throat without membrane in the school and in the district. In only a few of these cases was a positive throat swab obtained. It is possible, however, that such patients as gave a history of sore throat had been suffering from a mild and transient diphtheria, because the distribution in space and time of this outbreak coincided exactly with that of the diphtheria outbreak.

Typical clinical cases of diphtheria only were treated in hospital, whereas catarrhal sore throats were treated, and as far as possible isolated at home. All carriers detected were segregated in their respective homes. It must be admitted, however, that home isolation of carriers proved in practice to be very incomplete.

To sum up, in an outbreak of diphtheria in association with a country school, swabbing of all scholars and absentees apparently proved effective in cutting short the outbreak as far as the school was concerned, although further cases occurred scattered over the district, all of which were traceable to known carriers or cases.

(2) *Outbreak of Diphtheria at Battlefield Public Elementary School.*—This is an example of a City school serving a good class district. In this instance diphtheria spread from class to class, and the swabbing of each class when it became infected failed to prevent the spread of the disease. Thirty cases of clinical diphtheria occurred

among the scholars attending Battlefield School during the period November 8th to March 3rd. Nine classes were involved. The disease was mild in nature, but one death occurred. The total number of pupils in the school is 996, and the school classes number 22.

Battlefield School is a modern and well-constructed building. The majority of the class rooms are on the ground floor, and entrance is gained to them by means of a long, broad corridor which opens out into two halls. The accompanying table shows the dates of sickening of the cases in relation to classes. It will be seen that the outbreak began among the infant classes, and later showed its influence more markedly among the older pupils.

				Classes and Average Age of Pupils.								
Number of Case.	Date of Sickening.	Date of Booking.	Last at School.	A 5-6	B 7-8	C 8-9	D 7-8	E 9-10	F 10-11	G 11-12	H 11-12	I 12-13
1.	Nov. 8	Nov. 18	Nov. 8	1	...	...	...	...	...	...	...	...
2.	,, 15	,, 18	,, 14	...	1	...	...	...	...	...	...	...
3.	,, 18	,, 21	,, 17	...	...	1	...	...	...	...	...	...
4.	,, 22	,, 26	,, 21	...	...	1	...	...	...	...	...	...
5.	,, 23	Dec. 1	,, 23	...	...	1	...	...	...	...	...	...
6.	,, 24	Nov. 29	,, 23	...	1	...	...	...	...	...	...	...
7.	,, 27	Dec. 2	,, 23	...	...	1	...	...	...	...	...	...
8.	,, 28	,, 5	,, 28	...	...	...	1	...	...	...	...	...
9.	Dec. 10	,, 16	Dec. 9	...	...	1	..	...	...	...	...	...
10.	,, 16	,, 23	,, 15	...	...	...	...	1	...	...	...	...
11.	,, 17	,, 21	,, 16	...	...	...	...	...	1	...	...	...
12.	,, 19	,, 21	,, 18	...	...	1	...	...	...	...	...	...
13.	,, 19	,, 22	,, 15	...	...	...	...	...	...	1	...	...
14.	,, 20	Jan. 4	,, 23	...	...	1	...	...	...	...	...	...
15.	,, 27	Dec. 31	,, 21	1	...	...	...	...	...	...	...	...
16.	Jan. 5	Jan. 7	,, 23	...	...	1	...	...	...	...	...	...
17.	,, 8	,, 11	,, 23	...	...	.	...	...	...	...	1	...
18.	,, 9	,, 11	Jan. 9	...	...	..	1	...	...	...	...	...
19.	,, 13	,, 16	,, 13	...	1	...	...	...	...	...	...	...
20.	,, 14	,, 16	Dec. 21	...	...	1	...	...	...	...	...	...
21.	,, 15	., 17	Jan. 16	...	...	...	1	...	..	...	...	...
22.	,, 29	Feb. 4	,, 27	...	...	...	...	...	1	...	...	...
23.	Feb. 1	,, 3	Feb. 2	...	...	...	...	...	1	...	...	...
24.	,, 1	,, 3	,, 2	...	...	...	...	...	...	...	...	1
25.	,, 2	,, 18	,, 16	.	..	1	...	...	...	...	...	...
26.	,, 4	,, 6	,, 3	...	..	...	..	...	1	..	...	...
27.	,, 6	,, 11	,, 6	...	...	...	...	...	...	...	...	1
28.	,, 7	,, 9	,, 7	...	...	...	...	1	...	...	...	...
29.	,, 25	,, 28	,, 24	...	...	...	...	...	...	...	...	1
30.	,, 28	Mar. 3	,, 27	...	...	...	...	...	..	...	1	...

Classes A, B, and C.—On November 25th when only four cases were known to the Department—1 in class A, 1 in class B, and 2 in class C—these classes were visited and the pupils examined clinically. 17 cases were excluded on account of enlarged tonsils, discharging noses, &c. The throats of these cases were also swabbed, but in all instances the report was returned as negative for diphtheria. Of the 5 absentees in class C, 3 were afterwards notified as cases of diphtheria. *Class C.*—On December 22nd, when another case had occurred in connection with C class, making 6 in all, the throats of the scholars present, 39 in number, were swabbed, and in 9 instances the result was returned as positive, giving a carrier rate at that time of 23 per cent. The scholars showing positive throats were all excluded. *Class D.*—On 12th January the scholars of class D were swabbed. Of the 54 scholars in this class, 10 were absent. 3 swabs were returned as positive, making a carrier rate of 6·8 per cent. Three days later a boy whose swab had been returned as negative sickened of diphtheria. *Class B.*—On 17th January class B was swabbed. Of 54 scholars, 10 were absent. 5 of those present were found to furnish positive swabs, giving a carrier rate of 11·3 per cent. *Class F.* — On the 7th of February class F was swabbed. 41 pupils were present and 11 absent. 8 of those present were found to yield positive results, giving a carrier rate of 19·5 per cent. *Class I.*—On 29th February class I was swabbed. 40 pupils were present and 11 absent. Only 2 of those present were found to be positive, giving a carrier rate of 5 per cent. In addition to swabbing the throats of the pupils attending the school, all absentees were swabbed before being allowed to return to the school. In every class examined certain pupils confessed to having suffered from sore throats during the two or three weeks previously, but in only a few instances did these pupils provide a positive swab.

This experience may be contrasted with that afforded by the outbreak in the school at Nitshill. In the former the classes were swabbed serially and at intervals, and the cases kept occurring over three months. In the latter all the scholars were dealt with at once, and the outbreak was apparently immediately controlled. It is very difficult in large town schools to determine what the correct procedure should be.

(3) Two more examples may be given. These illustrate City schools in which dropping cases of diphtheria occurred during the winter until one class became more definitely infected. Both schools serve fairly crowded districts, and in this way may be compared with Example (2) in as much as the school populations were probably more "salted." In each of the following schools swabbing of the infected classes and exclusion of the "positives" cut short the small outbreak, and no extension to other classes occurred.

(a) *Victoria School.*—The cases of diphtheria occurring in connection with this school from 1st September, 1927, to 29th February, 1928, were 9 in number. 6 classes were involved, and the distribution of cases is shown below :—

Class and Average Age.	Date of Sickening.								
	Oct. 3.	Dec. 1.	Dec. 13.	Dec. 17.	Jan. 15.	Jan. 24.	Jan. 30.	Jan 31.	Feb. 3.
A (11-12), - -	1	...	...	...	...	...	...	...	...
B (7-8), - -	...	1	...	...	...	...	...	...	...
C (12-13), - -	...	...	1	...	...	...	...	...	...
D (6-7), - -	...	...	...	1	...	...	...	...	...
E (10-11), - -	...	...	...	...	1	...	...	...	...
F (9-10), - -	...	...	...	...	...	1	1	1	1

4 of the cases occurred in connection with class F. This class was visited on 8th February, when 3 cases were known to have occurred. 40 scholars were swabbed, and only 2 were positive, giving a carrier rate of 5 per cent. The absentees were swabbed, with negative results. At the time of visitation it was learned that the teacher of this class was ill with sore throat on 24th January, on account of which she was off duty till 1st February. She was excluded from school and a swab was taken. This proved to be positive and later was found to be virulent. After exclusion of the pupils with positive throats no further cases of diphtheria occurred.

(b) *Holy Cross School*—During the months September to December, 13 cases of diphtheria occurred in Holy Cross School. These were distributed among 8 classes. The distribution is shown in the following table :—

Class and Average Age	Date of Sickening												
	September.				October.			November.					Dec.
	18	28	30	30	2	2	15	1	3	6	24	26	9
A (7-8), . .	1	...	...	...	...	...	...	...	...	...	..	...	...
B (11-12), .	...	1	...	...	...	...	...	...	...	...	...	...	...
C (9-10), - -	...	...	1	...	...	...	...	...	1	1	1	1	...
D (5-6), - -	..	...	...	1	...	1	...	...	...	...	...	...	...
E (8-9), - -	...	...	...	...	1	...	...	...	...	...	...	...	...
F (6-7), - -	...	...	...	...	..	...	1	...	...	...	...	...	...
G (5), - - -	...	..	...	...	...	...	...	1	...	...	...	...	...
H (7-8), - -	...	...	...	...	...	...	...	...	...	...	...	...	1

Owing to the occurrence of 3 recent cases in "C" class, it was visited on 29th November, and 53 scholars were swabbed. 4 of these gave positive results, giving a carrier rate of 7·5 per cent.; also, 1 of the 6 absentees was found to be positive. This child gave a history of sore throat on November 24th, and was treated as a case of diphtheria. A virulence test was performed on the four cases found positive at school, and only one was discovered to be virulent. After exclusion of these cases no further case occurred in the class, and only one more in the school.

ERYSIPELAS.

Of 848 cases of erysipelas registered during the year, 426 were removed to hospital. During the previous year there were 1,016 cases. The case rate for 1927 is 750 per million of the population, and is the lowest rate ever recorded with the exception of that for 1918 when many men were on service. The death-rate was only 26 per million of the population compared with 45 for 1926. The disease is always most prevalent during the winter months.

CEREBRO-SPINAL FEVER.

In Table XIX of the Appendix is shown the monthly distribution of notifications of cases of cerebro-spinal fever, which are usually most numerous during the spring. Of 79 cases registered, 31 occurred during the spring, and all but four of the total cases were removed to hospital. The disease was slightly more prevalent than in recent years, as the case rate per million was 70, which has not been exceeded since 1920, when it was 76. There was no special grouping of the disease, the largest number recorded being six in each of the three wards, Anderston, Woodside, and Gorbals.

ENCEPHALITIS LETHARGICA ("SLEEPY SICKNESS.")

While no serious outbreak of encephalitis lethargica occurred during 1927, 72 persons were notified as suffering from this disease. Of these, 23 were considered *acute* and 29 were in the later *chronic* stages; the remaining 20 cases were found to have some other affection. Of the 29 patients suffering from the *later* results of this disease, 15 were re-notifications. The new cases were sporadic in the city, no definite association being discovered between them. The number of acute cases (23) was substantially the same as that for 1926, when 20 acute cases were registered. The following table indicates the distribution of the cases in the public health divisions of the City:—

		Verified		
Division	Cases Notified	Cases Sickening in Glasgow during 1927	Sequelæ of Encephalitis Lethargica	Altered Diagnosis
Central, ...	9	4	4	1
Northern, ...	21	—	16	5
Eastern, ...	15	4	1	10
South-Eastern, ...	10	5	4	1
South-Western, ...	17	10	4	3
Total, ...	72	23	29	20

The above table indicates that the number of cases of encephalitis lethargica sickening in Glasgow during 1927 was 23 out of a total 72 cases notified, *i.e.*, 32 per cent. During inter-epidemic periods this affection is difficult to recognise, and in all likelihood the number of patients who were reported as having contracted the infection is an inflated one.

During the year there were 29 deaths assigned to "encephalitis lethargica." These were investigated, and the following is an analysis in terms of the stage at which death occurred:—

Acute Encephalitis Lethargica, ...	3
Chronic Encephalitis Lethargica, ...	18
Intercurrent Disease, ...	7
Doubtful, ...	1
	29

A REVIEW OF ENCEPHALITIS LETHARGICA IN GLASGOW

General.—There appeared in the Annual Report for 1926 a comprehensive review of encephalitis lethargica in Glasgow by Dr. Andrew Davidson. In that review all known cases of the disease occurring in the City from its recognition in the early months of 1918 until the end of 1926 were investigated. As a result of the investigation the problem of the post-encephalitic in Glasgow was defined, and with a view to maintaining the grip on this problem all known cases were re-examined in 1927. It is intended to continue this periodical re-examination of all known cases.

In addition to the following up of the old cases of the disease, all newly notified cases were investigated. The following is a review of the known cases at present in the City:—

Number of Cases on Register at end of 1926, ...	555
Number of Acute Cases registered during 1927, ...	23
Number of Chronic Cases registered for first time during 1927, ...	14
Total, ...	592

The above self-explanatory table brings the review up to date, and indicates that the number of cases on the register during 1927 was 592. The table which follows gives an analysis of these 592 cases:—

Analysis of Total Known Cases in the City.

Under Observation at home, ...	265
In Hospital.	111
Fit—Now working or at school, ...	141
Deaths, ...	29
Untraced,...	40
For further Enquiry, ...	6
	592

Hospital Cases.—At the end of 1927 there were in all 111 cases of the disease undergoing institutional treatment compared with 87 in 1926; the hospital cases for 1927 were distributed as follows:—

Mental Institutions, ...	35
Stobhill Hospital (including Special Ward), ...	52
Southern General Hospital, ...	14
Other Institutions, ...	10
	111

In the review of 1926 it was recorded that 26 patients suffering from the sequelæ of encephalitis lethargica were under treatment in mental institutions, and the present review indicates that there are now 35 patients under such treatment. The special post-encephalitis unit is still in existence at Stobhill Hospital, where there is accommodation for 60 patients, drawn from all over Scotland. At the end of 1927 there were 26 Glasgow patients in this experimental unit. There are 50 Glasgow cases, therefore, receiving in-patient treatment outwith this special unit at Stobhill Hospital and mental institutions.

Home Cases.—Reference to the above table shows that there were 265 cases of "sleepy sickness" under observation at home in addition to the 141 also at home who are regarded as fit for work or school. This makes a total number of 406 home cases. These home cases were subdivided into 118 Parkinson cases and 288 non-Parkinson cases. There is a reduction in the number of Parkinson cases at home compared with 1926, when there were 156. The reduction is accounted for by deaths, cases untraced, and the increase in number of cases in hospital. The degrees of Parkinsonism varied from the early stages to the later stages of that syndrome. (This term "Parkinson" means that a patient has developed the severe and incapacitating symptoms characteristic of the later stages of the infection.)

Fitness for Work or School.—The total number of alive and known cases in the City at the time of enquiry was 517, and the following is an analysis of these cases in terms of fitness for work or school:—

(1) Fit for Work or School—		
(a) No Sequelæ, ...	141	
(b) Minor Sequelæ, ...	104	245
(2) Unfit for Work—		
(a) "Parkinson,"	160	
(b) Non-"Parkinson,"	30	
(c) Mental Hospital Cases, ...	35	225
(3) Unfit for School, ...		47
		517

It should be indicated that in many instances the individuals are fit for work or school, yet suffer from some minor sequel of the disease. The above figures show that 272 patients, or 50·67 *per cent.*, were unfit for work or school, whereas 245, or 49·33 *per cent.*, were fit. The extensive enquiry reported in the Annual Report for 1926 showed that the percentage of patients unfit for work was 51.

Total Incapacitation.—An analysis has been made of the above 517 cases in terms of total incapacitation. Of this number, 133 are bed-ridden or requiring constant attention, and this includes 111 cases in hospital at time of the review (January, 1928), leaving 22 such cases at home.

MEASLES.

Measles again became epidemic in the later months of the year. The epidemic began in the middle of September, rather earlier than usual, and reached its maximum at the close of the year. Concurrently, there was a rise in the prevalence of pneumonia, which is the most serious complication of measles and the cause of much of the mortality. This complication necessitates the removal to hospital of many cases of measles mainly for the purpose of giving the child a better chance of recovery.

Altogether, 8,983 cases were registered, of which 799 received hospital treatment, or between 8 and 9 per cent. of the total. The number removed to hospital, however, depends largely on the amount of available accommodation, especially at times when the disease is epidemic, and during the later months of the year it became necessary to keep a waiting list of the more serious cases when pressure on hospital accommodation became acute.

The disease, which had been more or less prevalent in the extreme south-west of the City during the early part of the year, became epidemic in the eastern district of the City at the end of August, and later spread to the north and south-eastern districts. The epidemic, however, was not of the same magnitude as that during the winter of 1925-26, which was very fully inquired into by the Department, and formed the basis of a report by Dr. J. L. Halliday, one of the Divisional Medical Officers, and published under the auspices of the Medical Research Council.

The occurrence of these epidemics at such short periods makes it impossible for all but a very small proportion of children to escape the disease in the early years of life when its fatality is greatest. During 1927, 307 deaths were classified as due to measles, which is equivalent to a rate of 272 per million, compared with 389 for the preceding year.

Dr. Gavin Young, one of the visiting aurists to the hospitals, reports:—"The notable feature of the measles epidemic of the winter 1927-28 was the low incidence of aural complications compared with the epidemic of two years ago, with a greatly diminished proportion of mastoid operations. It is well worthy of note that much less difficulty is experienced in obtaining permission from parents for the performing of the necessary operations than was formerly the case, and this is progressively so."

WHOOPING-COUGH.

In contrast with measles, the death-rate from whooping-cough has been declining very considerably over a long period. The death-rates of both diseases, however, are subject to yearly variations. During 1927 there was a heavy incidence of whooping-cough which was general throughout the City, so that the death-rate, 322 per million, is considerably higher than the rate, 165, of the preceding year. The disease was more prevalent among females, with 5,316 cases to 4,677 males, and 60 per cent. of the cases in each sex occurred at ages under five.

In common with the other diseases of childhood whooping-cough is most fatal in the early years of life, as was shown in the report for last year, when the death-rate per 1,000 cases at the age of four to five years was only one-eighth of the rate among children under one year. The prevalences of whooping-cough do not recur in such magnitude as measles, and therefore children have a greater opportunity of escaping the disease until a later age. This is probably one of the reasons for the greater reduction in the mortality from whooping-cough compared with measles.

During 1927 the number of cases registered was 9,993, of which 586 were removed to hospital. The case-rate, 8,839 per million of the population, compares with 3,466 for the preceding year. This information is given in Appendix Tables XVII and

XVIII, while Table XIX shows the seasonal distribution which indicates that the disease prevailed most during the spring and early summer months.

Notification of whooping-cough was made compulsory for three years. This period expired on 10th July, when the Local Authority determined not to renew the arrangement. The Committee, however, authorised the appointment of nurses for the purpose of visiting houses in which cases of measles and whooping-cough occur, in order to instruct the parents or guardians in the methods of treatment and prevention. Two nurses were appointed when the epidemic of measles began in the autumn.

CHICKENPOX.

Chickenpox is not a serious disease, and it is very rarely that a death is classified to this cause. It is, however, important from an administrative point of view because of the possibility of a mild case of smallpox being mistaken for the minor infection. A circular was issued to medical practitioners on 6th April, when several cases of smallpox occurred in Dundee, drawing attention to this fact and also to the widespread prevalence of smallpox in England.

The disease is still notifiable, and during the year 7,864 cases were registered, represented by a case-rate of 6,955 per million, which is greater than the rates during recent years. This disease is usually mild, and in many cases no doctor is in attendance.

OTHER INFECTIOUS DISEASES.

A record of other infectious disease dealt with, together with the number of each treated in hospital, is given in Appendix Table XVII. Among these is included ophthalmia neonatorum, and the various forms of pneumonia which are dealt with in other sections of the report; there remain trachoma and certain other diseases which are here briefly referred to.

ANTHRAX.

No case of human anthrax occurred.

It will be remembered that many of the shaving brushes examined in previous years were found to be infected with B. anthracis, notwithstanding the fact that a label was affixed to each stating that the hair was " guaranteed free from anthrax."

Further samples of shaving brushes, especially of the cheap foreign make, were examined during the year, but in no instance was the bacillus recovered. Steps have been taken in the countries of origin to prevent the exportation of infected brushes.

Anthrax in Animals.—The Veterinary Surgeon reported that a bullock, one of a consignment of eight received from Fifeshire, was found on 5th April to have died in the pend in the slaughter house. The death was due to anthrax.

On 2nd May the Veterinary Surgeon reported a suspected case of anthrax, a cow, which had died that day at a farm situated in the south-western district of the City.

All the usual precautions were taken.

DIARRHŒA AND ENTERITIS.

Under the new short classification of deaths, diarrhœa, &c., under two years, is shown in Table VIII in the Appendix. During the year deaths in this group numbered 301, representing a death-rate of 340 per million. Although this group of diseases was not given separately in the former short classification list, statistics have always been referred to in this section of the report because of the association of infant deaths with high temperatures during Autumn.

The following table shows the preponderance of deaths under one year which represent about two-thirds of the total:—

	Age in Years.			
	-1	-5	5+	Total.
1923, ...	219	65	74	358
1924, ...	256	71	84	411
1925, ...	264	68	84	416
1926 (Old City), ...	296	77	77	450
1927, ...	277	83	70	430

The association between infant deaths from these diseases and temperature has not been so apparent within recent years. The following table shows for each month of the year the deaths from diarrhœa and enteritis and mean temperature :—

1927.—Diarrhœa and Enteritis.

Month of Death	Number of Deaths – 1 Year	Mean Temp.	Month of Death	Number of Deaths – 1 Year	Mean Temp.
Jan.,	20	39·2	July,	25	60·1
Feb.,	15	38·9	Aug.,	16	58·2
March,	24	43·1	Sept.,	38	52·2
April,	14	43·7	Oct.,	25	48·9
May,	16	49·0	Nov.,	34	41·6
June,	14	52·5	Dec.,	36	34·1
				277	

Fly Nuisance.—Following the custom of previous years, the weekly removal of material from all dung pits throughout the City was commenced in the month of May, and continued till September. In all 19,444 sprayings of pits were carried out, the total cost incurred amounting to £512, or an average of 6·32d. per spray.

RABIES.

No case of rabies is known to have occurred, but a number of persons bitten by dogs were reported by the police for inquiry. These are shown in relation to the season of occurrence and the severity of the bite :—

	Slight	Serious
1st Quarter,	77	2
2nd ,,	83	4
3rd ,,	116	6
4th ,,	65	2
	341	14
	355	

1926, ... 367 1925, ... 263

TRACHOMA.

During the year 1927 35 notifications of trachoma were received. Five of these were re-notifications of old cases, and 3 resided beyond the Glasgow boundary. This leaves 27 new cases of trachoma for the year. The birth-places of these patients were as follows:—Scotland, 20; Ireland, 5; Russia, 1; Lithuania, 1—27.

The age of onset of the cases was as follows:—

Age group,	5-9	6
,,	10-15	5
,,	16-20	6
,,	21-25	8
,,	Over 25	2
		27

Fourteen of the cases were males and 13 females.

Trachoma Dispensary.—During the year 188 individuals attended the Trachoma Clinic. These were made up of 132 definite cases of trachoma and 56 for diagnosis. 3,448 of the attendances were for treatment by the nurse, and 1,683 were consultations with the ophthalmic surgeon. During the year 32 contacts with trachoma cases were brought to the dispensary and examined. In one instance only was a case of trachoma found, but 17 of the cases suffered from conjunctivitis of various degrees of severity, and have been kept under observation.

Hospital.—Thirty-three trachoma cases were admitted to the special trachoma ward in Ruchill Hospital, 22 of these being first cases and 11 re-admissions.

The operations carried out were as follows:—Expression, 19; cautery, 14; electrolysis, 2—35.

In addition, 6 of the indoor patients received treatment with ultra-violet light, and considerable improvement was noticed in certain of these cases.

The indoor accommodation for trachoma was available in Ruchill Hospital from January to October, when the occurrence of measles and pneumonia necessitated the use of the ward for other purposes. The patients receiving treatment with ultra-violet light continued as out-patients at Baird Street.

Home visitations by the nurse numbered 261.

MALARIA AND DYSENTERY.

The following table shows the distribution throughout the City of the cases notified as malaria and dysentery. As, however, only four cases of dysentery—two in the Central and two in the Eastern Division of the City—were verified bacteriologically, little significance can be attached to the numbers.

Division.	Malaria.	Dysentery.
Central,...	5	13
Harbour, ...	3	6
Northern, ...	5	6
Eastern, ...	1	4
South-Eastern, ...	4	...
South-Western, ...	1	...
	19	29

Six of the cases of malaria and 17 cases of dysentery were treated in hospital. The rate for dysentery at 26 is double that of recent years. This was due to the notification of a number of cases in one of the parish hospitals.

INFECTIVE JAUNDICE.

The Scottish Board of Health considered it desirable that the notification of the disease should be continued, and issued the Public Health (Infective Jaundice) Regulations (Scotland), 1927, making it notifiable until 31st December.

Only one case of infective jaundice has been registered in Glasgow since the disease was made notifiable in 1924. The case occurred in 1926.

LOCAL MOSQUITOES.

The following report has been drawn up by Dr. W. C. Gunn to record further progress in the investigation of and measures taken against mosquitoes in the neighbourhood of Glasgow.

It may be remembered that complaints were received by the Public Health Department during the late summer and autumn of 1926 from several residents living in the vicinity of Bogton Marsh, Cathcart, that they were suffering considerably from the effects of mosquito bites. Only a small part of this marsh lies within the Glasgow boundary. Investigation definitely proved that the neglected watercourses of the marsh were the source of the trouble. The stagnant ditches and the marsh afforded ideal facilities for the propagation of mosquitoes, of which three types were found there, Anopheles bifurcatus, Culex pipiens, and Culicella morsitans.

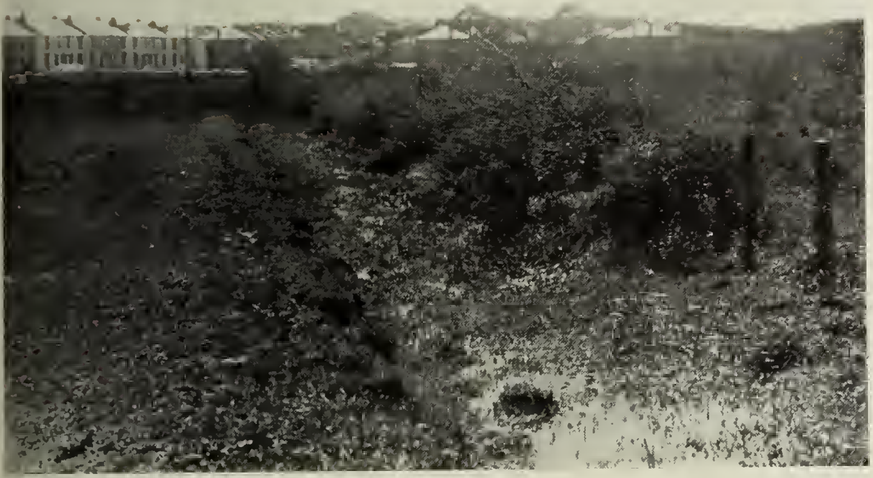
On 14th June, 1927, the Sheriff-Substitute of Renfrewshire issued an interlocutor to the effect that the proprietors of Bogton Marsh had to clear the ditches of silt and vegetation, and thereafter to maintain them clear of silt and vegetation in order to destroy the breeding-places of mosquitoes, so that the mosquitoes should be eliminated or reduced to a minimum. The facts of this case have already been published in the Annual Report of the Medical Officer of Health, Glasgow, for 1926, pp. 116-127.

This work has been completed in a most satisfactory manner. In order that an impression may be given of the nature of the drainage operations which were undertaken two photographs are presented. Number 1 (23/4/27) shows one of the ditches at the north side of Bogton Marsh silted up with vegetation. This ditch is the course of the Merrylee Burn, which in consequence of the progressive obstruction overflowed and flooded the low-lying ground of the marsh. The vegetation sub-divided the channel into small sheltered pools, which became favourable breeding places for Anopheles bifurcatus and Culex pipiens. Culicella morsitans was found only in the pools amongst the reeds and rushes of the main marsh.

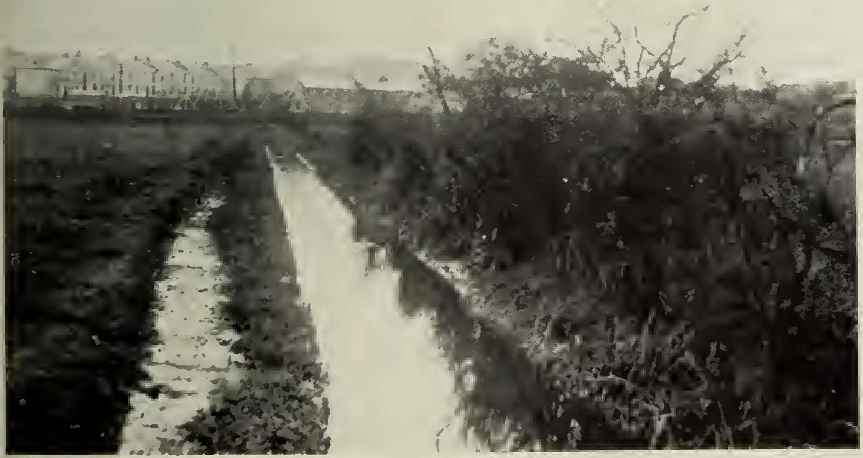
Number 2 is a photograph of the same watercourse taken in October, 1927, after ditching operations had been completed. This is a good illustration of the type of work carried out in all the ditches of the marsh. This ditch is running very freely at present, and all breeding places for mosquitoes have been completely abolished. In both photographs the proximity of the building operations to the marsh may be observed.

Observations have been made throughout the winter 1927-28, which has been unusually wet, and no flooding of the drained land has been noted. There remain, however, in the centre of the marsh, at its lowest-lying part, several irregular muddy pools. On 15th January, 1928, it was possible to cross the marsh, wearing gum boots, and investigate all the watercourses and the residual muddy pools for hibernating larvæ of Anopheles bifurcatus and Culicella morsitans. None was found. An inference

BOGTON MARSH, MUIREND



Before Drainage



After Drainage

may be drawn from this, that there will be no production of mosquitoes during the summer and autumn of 1928, in numbers sufficient to give rise to a recurrence of the trouble about which complaints were made in the autumn of 1926.

An important point, however, to which the attention of residents in the Muirend vicinity should be directed, in order that the work done on the marsh may not be neutralised in any way, is the care of rain barrels. These and other receptacles for stagnant garden-water are most favourable breeding places for mosquitoes, particularly Culex pipiens, or the common gnat, which may be very troublesome at times. They should be emptied at least once in three weeks, particularly during August and September. By this means the mosquito cannot possibly complete its life cycle from the egg to the imago or adult insect.

With reference to this latter point it has to be noted that from a collection of the eggs of Culex pipiens, or what is known as an egg-raft, owing to the eggs being massed vertically in the form of a small boat-shaped raft, almost black in colour, found in a garden rain barrel on 2nd August, 1927, there hatched out adult mosquitoes in 26 days. The observation, however, was made indoors, although there is nothing to hinder this rapidity of development occurring in the natural state during periods of mild weather, provided the breeding place is sufficiently sheltered.

During the month of July, 1927, a few complaints of mosquito bites were received by the Public Health Department from tenants in a new housing area near Hangingshaw, which lies to the east of the Mount Florida district. The specimens brought for identification were Theobaldia annulata and Culex pipiens, which have been reported previously as being found in the vicinity of Glasgow. Investigation revealed prolific breeding pools of considerable extent in a coup near by. No anophelines were present, as all the pools were rather foul for this species.

All these stagnant pools were treated on two consecutive days by spraying with paraffin; and to make certain of killing the larvæ, Cyllin, a carbolic disinfectant, in a strength of four ounces to one gallon of water, was also sprayed over the areas. These measures were effective. The pools are steadily being filled up.

DIABETES — SUPPLY OF INSULIN.

Details of the scheme for the distribution of insulin to persons whose circumstances warrant such assistance will be found in the Report for the year 1925.

The applicants are usually working-class persons outwith the National Health Insurance Scheme and not in receipt of Poor Law Relief. There were 33 new applicants during the year; 18 of these were married women or widows, 5, while of insurable age, were outwith the National Insurance Scheme, 2 were under 16 years of age, and 8 were patients in Corporation hospitals.

Cases on Roll at 31st December, 1926, ...		44
,, applying for first time during 1927, ...	33	
,, who discontinued treatment prior to 31st December, 1926, but re-applied during 1927, ...	1	
	—	34
		—
		78
Cases who died during 1927, ...	13	
,, ,, discontinued supply during 1927, ...	19	
	—	32
		—
Leaving Cases on Roll at 31st December, 1927, ...		46

Supplies of insulin are issued to patients in Corporation hospitals suffering from diabetes, but being treated for other diseases. 5 of these patients were dismissed during the year, and are included among the 19 cases who discontinued treatment. The remaining 14 cases discontinued obtaining treatment for the undernoted reasons:—

Discontinued treatment under medical advice, ...	4
Removed beyond City boundary, ...	1
"Keeping well without treatment,"	1
"Not benefiting from treatment,"	1
Indefinite, ...	4
"Now able to purchase insulin,"	1
"Became insured and getting insulin under National Insurance Scheme,"	2
	—
	14

The daily dosage of the cases on the roll at 31st December, 1927, is as follows:—

No. of Cases.	Daily Amount.
...	Under 5 Units.
7	5 to 14 ,,
14	15 ,, 24 ,,
6	25 ,, 34 ,,
8	35 ,, 44 ,,
3	45 ,, 54 ,,
1	55 Units and over.
2	Receiving double strength insulin.
5	Not stated. (Hospital cases).
46	

During the year 4,522 phials of ordinary strength insulin (100 units per 5 c.cs.), and 93 phials of double strength (200 units per 5 c.cs.) were issued, the total cost being £471.

The corresponding figures for 1926 were 3,851 phials at a cost of £385.

SECTION V.

RESPIRATORY DISEASES AND TUBERCULOSIS.

Under the term respiratory diseases are included pneumonia, bronchitis, and influenza. The following table shows the fluctuations which occur from year to year:—

Year.	Pneumonia.		Influenza.		Other Respiratory Diseases	
	Deaths.	Rate per million.	Deaths.	Rate per million.	Deaths.	Rate per million
1922	2,303	2,129	767	709	1,477	1,365
1923	1,400	1,285	65	60	972	892
1924	2,198	2,006	412	376	1,283	1,171
1925	1,665	1,517	210	191	1,098	1,000
1926	1,758	1,596	386	350	967	878
1927	1,792	1,585	204	180	881	779

There occurred, last year, 2,877 deaths from these affections, amounting to one-fifth of the total deaths. The cases of acute primary pneumonia registered numbered 5,877, and of acute influenzal pneumonia 375, of which 3,451 and 197 respectively were treated in hospital. Influenza was not prevalent during the year, and the deaths ascribed to it, 204, contrast with 386 for the previous year.

The number of patients treated in the hospitals reaches a very high figure each year. The hospitals are, indeed, scarcely able to cope with the demand. This aspect of pneumonia is discussed in the section on hospitals. Since acute primary and acute influenzal pneumonia were made notifiable diseases, the percentage of patients treated in hospital has been as follows:—

Year.	Cases Notified.	Percentage to Hospital.
1920	4,533	38
1921	3,592	46
1922	6,572	43
1923	4,465	60
1924	7,272	54
1925	6,105	59
1926	6,704	55
1927	6,252	58

These figures are exclusive of patients treated in General and Poor Law Hospitals. It is difficult to state facts about acute pneumonia with any degree of accuracy. To begin with, it is not fully notified. It is also very apt to be erroneously notified. There is, for instance, a very large group of secondary pneumonias which occur as complications of measles and whooping-cough and, to a lesser extent, influenza, and terminal pneumonias in lingering chronic affections. Pneumonia has become a somewhat loose and ill-defined term. These secondary pneumonias, again, may or may not be classified in accordance with the diseases which give rise to them, and the primary cause is, apparently, often omitted from the death certificate. This inaccuracy in the returns renders it difficult, if not impossible, to separate out for study the causes which lead to so high a prevalence of respiratory disease in young children. Dr. C. M. Smith, of the Health Department Staff, has just completed a survey of the incidence of the pneumonias, with special reference to the difficulties encountered in the study of this important group of infections. The results have been published in the "Journal of Hygiene" for April, 1928.

It is difficult also to estimate the real fatality rate of pneumonia. The average rate among all pneumonia patients treated in the hospitals in Glasgow from 1919 to 1925 was 21·8 per cent. For last year the following were the rates in the various hospitals:—

	Cases.	Deaths.	Morbidity per cent.
Belvidere Hospital, ...	1,489	308	21
Ruchill Hospital, ...	1,321	243	18
Knightswood Hospital, ...	534	86	16
Shieldhall Hospital, ...	338	44	13
	3,682	681	18

Many children affected with pneumonia, whether primary or secondary, undoubtedly require hospital treatment. It is too serious to be nursed at home, while many homes are quite unsuited for its treatment. Unfortunately these children are not all admitted in the early stages, and many reach hospital extremely ill after a few days of domestic treatment which includes the free use of ipecacuanha wine, whisky, and poultices, often hot enough to cause burns. On the other hand, many children are admitted on the first signs of bronchial catarrh; indeed, for the past three years, a considerable proportion of the admissions to one of the large infectious disease hospitals has been of this very mild catarrhal nature, and the children have recovered on the first or second day after admission.

An example of the severity of acute primary pneumonia is shown by the fact that out of 5,334 children under five years of age admitted to Glasgow hospitals during the last seven years there were 1,404 deaths, a case mortality rate of 26.3 per cent. The disease is much more severe in children under one year, the case mortality rate reaching 40 per cent.

A study of respiratory disease in children is thus extremely difficult, but investigations into pneumonia are important because (1) it occupies so prominent a place in causing death from respiratory diseases, and is characterised by a mortality rate of about 20 per cent. ; (2) though within the last 70 years the death-rate from most other diseases, including those of the respiratory system, has fallen, the death-rate of pneumonia in all its forms has increased; and (3) recent studies have suggested that environmental factors of a sociological order, overcrowding and poverty, have a strong influence on the death-rate from pneumonia in childhood, even more so than meteorological conditions.

Very little investigation has been directed to elucidating the precise housing factors which operate in heightening the incidence and severity of diseases of the lungs, or what part is played by malnutrition in children. A remark of Professor Leonard Hill may be quoted that "Cold weather probably compels children to remain indoors in stuffy overheated rooms, where infection is intensified and health weakened by heat stagnation, a lowered metabolism and want of sunlight."

PULMONARY TUBERCULOSIS.

The death-rate from pulmonary forms of tuberculosis is again the lowest recorded, 838 per million of the population, compared with 861 and 922 for 1926 and 1925 respectively. The figures indicate a steady reduction in the death-rate from this cause. During the past two years it has been less than one-third of the average rate prevailing during the decade 1881-1890.

The death-rates from pulmonary tuberculosis, in succeeding periods, have been as follows:—

1881-1890,	2·680 per 1,000 living.	1921,	-	1·007	per 1,000 living.
1891-1900,	2·015 ,,	1922,	-	1·074	,,
1901-1910,	1·533 ,,	1923,	-	1·014	,,
1911-1915,	1·346 ,,	1924,	-	1·006	,,
1916-1920,	1·191 ,,	1925,	-	·922	,,
		1926,	-	·861	,,
		1927,	-	·838	,,

The death-rates for several large towns are shown in the table which follows:—

PHTHISIS DEATH-RATE PER 100,000 IN CERTAIN TOWNS.

	1913	1920	1921	1922	1923	1924	1925	1926	1927
Glasgow,	**143**	**106**	**101**	**107**	**101**	**101**	**92**	**86**	**84**
Edinburgh,	114	85	91	87	94	101	95	84	90
Dundee,	116	99	100	98	98	85	87	81	90
Aberdeen,	109	93	91	88	81	91	97	74	66
London,	—	106	107	108	97	98	95	88	91
Liverpool,	—	141	127	140	125	130	130	122	140
Manchester,	—	133	130	127	124	118	131	119	115
Birmingham,	—	95	97	97	92	97	98	94	89

The highest ward rate was 1,362 in Exchange, while Mile-End, Blythswood, Gorbals and Govan Wards had all rates in excess of 1,200. The lowest rate was 131 in Kelvinside.

In the report for last year the age and sex distribution was dealt with in a special enquiry, which indicated that the incidence of the disease at the higher ages of life has markedly declined. This is again evident from the age distribution of deaths given in Table IX in the Appendix, when the highest number was recorded in each sex at the age period 25-35. Some part of this decrease is probably due to the larger number of people surviving at older ages.

Comparing the death-rates from pulmonary tuberculosis with other large towns given above, it is shown that among Scottish towns the decline from the pre-war rate of 1913 has been greater in Glasgow than in the others. The rate for 1927 is also lower than in any of the English towns quoted.

The following statistics deal with cases on the register on the lines of former years:—

Summary of cases as at 31st December, 1927:—

Total cases registered from 1st January, 1910, to 31st December, 1927,		40,404
Less—Died,	21,900	
(1) Verified on notification, but subsequently—		
Removed and not traced,	3,156	
Removed from Glasgow,	2,643	
(2) Not discovered on notification:—		
Not found at address given,	1,061	
Notified from Poor Law Institution (with no fixed abode), but still remaining on Register,	923	
(3) Subsequently taken off registers as not suffering from pulmonary tuberculosis,	4,949	
		34,632
Total cases under observation at 31st December, 1927,		5,772

The number of cases registered since 1913 is summarised below:—

Year	Cases Registered	Year	Cases Registered
1913-1915 (annual average),	2,425	1924,	1,829
1916-1920 ,,	2,410	1925,	1,600
1921,	2,045	1926 (Old City),	1,732
1922,	1,954	1926 (Added Area),	63
1923,	1,725	1927,	1,623

Cases Registered during 1927.—Of the total number of cases registered during the year, 1,471 were notified in terms of the Infectious Diseases (Notification) Act, 1889, and Tuberculosis Regulations, 1912. 9 were sent by the Pensions and Military Authorities, while 143 were ascertained from other sources, as shown below:—

1. *Source of Notified Cases:*—

1. Occurring in private practice,			929
2. Occurring in public practice:—			
(*a*) Poor Law cases at home addresses,	30		
Poor Law cases from hospitals and poorhouses,	165		
Poor Law cases at dispensaries,	6		
		201	
(*b*) Charitable dispensaries and infirmaries,	194		
Corporation dispensaries,	147		
		341	
			542
Total cases notified,			1,471

2. *Source of information in cases not notified:—*

(*a*) From admission and dismissal sheets of Poor Law Institutions, ...	15	
(*b*) School Medical Officers, ...	12	
(*c*) Port Local Authority, ...	2	
(*d*) County Medical Officer, ...	19	
(*e*) From death cards only, ...	95	
		143
3. *From Military Authorities,*		9
Total cases registered, ...		1,623

Places of Residence at Time of Registration.—When a patient is notified from a home address this is visited, and if the case can be definitely located the patient is regarded as a "home" case, even although at the time of notification he is under treatment in an institution. The results of these inquiries may be summarised as follows:—

Cases traced to home addresses, ...	1,506
Cases at home, but not visited at request of medical practitioner, ...	36
Cases where only known address was an institution, ...	81
Cases not found at address given, ...	—
	1,623

Private and Public Notifications.—The figures given in the foregoing summary refer to the total number of cases registered during the year, while the following table refers only to notifications under the Act received regarding the 1,471 cases so notified:—

Notifications	Private	Public	Total	Percentage Public
Primary, ...	929	542	1,471	36·8
Multiple, ...	127	86	213	40·0
	1,056	628	1,684	—
Percentage multiple to primary notifications in each group, ...	13·7	15·8	14·5	

Age Distribution of Cases Registered.—This information is given in the following table for each of the three years ending 1927 :—

	1925		1926		1927	
Age	M.	F.	M.	F.	M.	F.
– 5 years, -	33	31	28	47	38	28
– 10 ,, -	41	43	52	37	31	47
– 15 ,, -	35	62	41	56	37	49
– 20 ,, -	80	102	90	108	86	128
– 25 ,, -	99	131	114	141	128	109
– 35 ,, -	147	180	201	196	190	167
– 45 ,, -	158	119	168	123	149	119
– 55 ,, -	124	57	166	73	126	60
– 65 ,, -	83	28	88	38	71	31
Over 65 years,	31	16	17	11	14	15
Total, -	831	769	965	830	870	753
Grand Total, -	1,600		1,795		1,623	

Housing Accommodation of Patients. — The following table gives the house accommodation at the date of registration of such patients as had home addresses. Patients who were in institutions (mostly Poor Law) at the time of notification are included along with those who could not be traced at the addresses given :—

	1925		1926		1927	
	M.	F.	M.	F.	M.	F.
1 Apartment, ...	117	158	135	142	143	136
2 ,, ...	418	389	464	446	412	393
3 ,, ...	133	130	162	137	160	121
4 ,, and up, ...	85	75	86	84	81	74
In Institutions and not traced, ...	78	17	118	21	74	29
Total, ...	831	769	965	830	870	753
Grand Total, ...	1,600		1,795		1,623	

Institutional Treatment.—The following table shows admissions to institutions of patients suffering from pulmonary and non-pulmonary tuberculosis since 1922 :—

Year	Local Authority Hospitals	Sanatoria	Poor Law Institutions	Total
1922, ...	2,018	714	604	3.336
1923, ...	1,959	690	555	3,204
1924, ...	1,840	499	573	2,912
1925, ...	1.531	457	606	2,594
1926, ...	1,637	425	738	2,800
1927, ...	1,458	413	615	2,486

Dispensary Attendances.—The following table shows the attendances and consultations at the various tuberculosis dispensaries in each year, 1925 to 1927. All forms of tuberculosis are included :—

Dispensary	Number of Consultations	Primary Attendances		Subsequent Attendances	
		Males	Females	Males	Females
Year 1925, ...	1,262	2,328		49,343	
,, 1926, ...	1,244	2,486		49,436	
Granville Street,	149	179	189	3,655	1,983
Black Street,	249	207	222	4,582	4,580
Adelphi Street,	197	187	202	3,684	2,516
Acorn Street,	278	240	233	10,455	7,734
Central Area,	159	189	189	2,508	1,851
Govan, ...	204	220	184	4,541	3,317
Year, 1927,	1,236	1,222	1,219	29,425	21,981
Total, ...	...	... 2,441		51,406	
Grand Total, ...	...	53,847			

Home Visitation by Nurses.—The number of home visits by nurses during the past three years has been as follows :—

1925	1926	1927
51,075	49,605	48,820

Issue of Medical Extras, Beds and Bedding, &c., to Patients under Treatment at Home.—In 1916 the Local Authority was granted power to provide assistance in the domiciliary treatment of patients in the form of extra nourishment and bed and bedding in necessitous cases. In 1927 these grants were made in 33 cases (medical extras) and 22 cases (bed and bedding). Issues of this nature are only granted after full inquiry, and in cases where the home circumstances are reasonably satisfactory. They are not regarded in any sense as a measure of out-relief, which is always readily granted by the Poor Law Authorities when required.

Issue of Clothing to Patients.—The interest on the purchase price of Bellefield Sanatorium, amounting to about £400 per annum, has continued to be applied to the purpose of providing clothing for necessitous patients proceeding to sanatoria. During the year 1927, 194 patients were assisted in this way, compared with 185 during 1926. The total number assisted since the inauguration of the scheme in 1916 is 2,214.

In the report for last year it was mentioned that, at the instance of the Scottish Board of Health, the treatment of tuberculosis by means of Ruppel's serum was investigated in Germany. Since then a full trial has been made of this remedy at Robroyston Hospital, and the results are given in the report of the Medical Superintendent. It is sufficient to say here that the serum did not fulfil expectations.

NON-PULMONARY TUBERCULOSIS.

Tuberculosis in all its forms became compulsorily notifiable on 1st July, 1914. The subjoined table gives the number of cases of non-pulmonary tuberculosis registered during subsequent years:—

Year	Cases Registered	Year	Cases Registered
1914-15 (annual average),	1,303	1924, ...	1.221
1916-20 ,,	1,360	1925, ...	1,115
1921, ...	1,141	1926, ...	1,031
1922, ...	1,050	1927, ...	1,101
1923, ...	1,234		

The following tables show (1) the distribution of the cases registered in each year in accordance with the location of the disease and sex of the patients; and (2) distribution according to certain age-periods in each year:—

TABLE I.

SHOWING NON-PULMONARY TUBERCULOSIS CASES REGISTERED DURING 1914–1927, WITH LOCATION OF DISEASE AND SEX.

Year		Glands		Bones and Joints		Abdomen		Meninges		Multiple		Others		Total	
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1914,*	...	159	153	239	186	79	45	73	47	11	18	70	62	631	511
1915,	...	176	232	192	156	135	104	137	123	52	27	71	59	763	701
1916,	...	199	216	185	138	155	136	136	140	40	18	75	64	790	712
1917,	...	203	266	196	170	155	113	93	95	41	34	70	57	758	735
1918,	...	186	265	158	143	119	128	92	107	34	30	78	72	667	745
1919,	...	138	178	164	127	126	123	93	86	40	29	56	47	617	590
1920,	...	138	145	193	168	116	112	89	83	39	29	44	29	619	566
1921,	...	149	171	165	127	116	84	78	74	27	29	68	53	603	538
1922,	...	134	147	141	124	130	111	75	66	20	24	42	36	542	508
1923,	...	145	155	181	129	145	118	102	75	16	15	78	75	667	567
1924,	...	149	150	145	130	140	144	104	81	35	36	65	42	638	583
1925,	...	145	137	150	139	131	114	75	65	29	24	54	52	584	531
1926,	...	135	137	142	131	115	109	78	57	24	35	35	33	529	502
1927,	...	131	148	186	134	127	106	89	61	22	17	45	35	600	501

* Figures for six months ending 31st December, 1914

TABLE II.

AGE DISTRIBUTION OF NON-PULMONARY TUBERCULOSIS CASES REGISTERED DURING EACH YEAR, SINCE COMMENCEMENT OF NOTIFICATION ON 1ST JULY, 1914.

Year	Under 1 year		1-5 years		5-10 years		10-15 years		Over 15 years		TOTAL	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1914, ...	60	21	132	90	140	102	134	115	165	183	631	511
1915, ...	59	49	236	161	164	140	112	108	192	243	763	701
1916, ...	64	45	244	152	149	123	108	164	225	228	790	712
1917, ...	52	48	190	134	157	156	117	149	242	248	758	735
1918, ...	30	33	163	169	137	125	129	142	208	276	667	745
1919, ...	45	28	151	109	142	123	78	136	201	194	617	590
1920, ...	57	35	143	122	128	137	110	94	181	178	619	566
1921, ...	51	35	157	111	133	122	81	94	181	176	603	538
1922, ...	38	28	175	150	103	87	71	79	155	164	542	508
1923, ...	59	19	214	165	116	112	86	79	192	192	667	567
1924, ...	50	39	212	171	96	99	103	85	177	189	638	583
1925, ...	48	22	184	144	111	103	71	77	170	185	584	531
1926, ...	28	22	162	127	109	88	63	78	167	187	529	502
1927, ...	31	28	171	102	130	82	73	77	195	212	600	501

A table is re-introduced this year showing the death-rates from tuberculous meningitis, abdominal tuberculosis, and other non-pulmonary forms of the disease in quinquennial periods since the beginning of the present century. The total death-rate of the non-pulmonary forms during 1927 was 301 per million of the population compared with 311 for the previous year. The present rate is less than one-third of the rate obtaining about 15 years ago.

The greatest fall has taken place in abdominal tuberculosis, the present rate of 60 being less than one-fifth of the average rates in the early years of the century, and is little more than one half of the rate so recently as 1923. This is probably related to the reduction in the incidence of tubercle bacilli in milk as shown by the periodic reports of the City Bacteriologist.

GLASGOW.—DEATH-RATE PER MILLION OF THE POPULATION.

Year	Tuberculous Meningitis	Abdominal Tuberculosis	Other Forms	Total
1901-5,	319	301	258	878
1906-10, ...	416	278	255	949
1911-15, ...	285	197	183	665
1916-20, ...	210	167	170	547
1921-25, ...	163	103	122	388
1926, ...	140	67	104	311
1927, ...	142	60	99	301

AN INQUIRY INTO NON-PULMONARY TUBERCULOSIS IN GLASGOW.

Within the past few years it has become possible to define more clearly the problem involved in the administrative treatment of the non-pulmonary or surgical forms of tuberculosis. (1) An acceleration has been observed in the rate of decline of the death-rate from this cause. The death-rate per million of the population now stands at 301, *i.e.*, one-third of what it was in the 1906-10 quinquennium. (2) Several of the forms which the disease assumes have become less severe in type and more amenable to treatment. This has been particularly so in the case of glands of the neck and abdominal tuberculosis. Indeed, the death-rate of the latter is about one-fifth of what was experienced at the beginning of the present century. Disease of bones is showing less tendency to rapid formation of abscesses, and the serious and fatal terminal affection, amyloid disease, is now seldom encountered. (3) The modern forms of treatment in well-equipped institutions by conservative methods, associated with ultra-violet rays, are giving increasingly satisfactory results. In the case of children especially recovery without or with a minimum of deformity is being more and more accomplished, as the successive annual reports of the Medical Superintendent of Robroyston Hospital clearly demonstrate.

The evolution of a complete scheme of administrative control involves a variety of considerations such as the adequacy of institutional accommodation, and the utilization of the beds to the best advantage, housing conditions, the possibilities of out-door treatment in view of the declining severity of certain forms of the disease, the rôle of ultra-violet therapy, the prevalence of the various forms assumed by the disease and their special requirements.

In order to obtain detailed information on these points likely to be of administrative value, an analysis was made by the clinical staff of all known patients in the City during May of last year. There were then 4,567 cases on the register. To begin with, the following groups were "written off" or deleted from the list:—(1) Patients not definitely suffering from tuberculosis; (2) patients who had shown no evidence of active disease for two or more years; (3) patients not under the direct supervision of the clinical staff, and in respect of whom there had been no definite information for two or more years. This last group is largely composed of those who are in a position to provide adequate treatment for themselves through their own medical attendants. There remained, after these deductions, 2,811 persons suffering from non-pulmonary tuberculosis, for whom the Local Authority may be regarded as directly responsible.

Age and Sex Distribution.—The following abbreviated statement gives the useful administrative division of the patients into the age groups, under 5 years, 5-15 years, and those over 15 years of age:—

	Males	Females	Total	Percentage
Under 5 years, ...	172	127	299	10
5-15 years, ...	710	601	1,311	47
Over 15 years, ...	568	633	1,201	43

It will be observed that the bulk of the cases for whom provision has to be made are children of school age, numbering

1,311, or 47 per cent. of the total. Those under five years (299) form 10 per cent., and those of adult ages (1,201) form 43 per cent. of the total. While this classification shows the existing problem, and is the prime factor in determining the allocation of patients in an institution, the picture becomes considerably altered when the distribution is made according to the age at which the first symptoms of the disease appeared. When this is done the relative proportions become 31 per cent. under 5 years, 43 per cent. between 5 and 15 years, and only 26 per cent. over 15 years. These figures reveal the great chronicity of this affection; show that the main bulk of the incidence (74 per cent.) is below the age of 15 years, and suggest that prompt and appropriate treatment of patients at these ages will reduce still further the amount of chronic adult tuberculosis in the community. Where bones and joints are concerned, it may be said that the later in life the affection develops or comes under treatment, the more intractable it becomes.

Location of the Disease.—As the site of the body attacked largely determines whether institutional treatment is required and for how long, the total cases have been analysed accordingly. Non-pulmonary tuberculosis is conveniently classified, first of all, according as one or several parts of the body are affected, *i.e.*, the "single" or "multiple" character of the lesions. There is also an administrative distinction between the two groups, as in the latter the lungs are not infrequently also involved.

In the series of 2,811 patients, the disease was "single" in 2,248, and "multiple" in 563, the former being thus four times more frequent. The following table shows the anatomical distribution of the disease according to the part of the body affected. Where more than one part is affected in the "multiple" group the cases are grouped according to the major lesion:—

	Single Lesions.		Multiple Lesions.		TOTAL.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Pulmonary, ...	—	—	90	16·0	90	3·2
Bones and Joints, ...	888	39·5	327	58·1	1,215	43·3
Abdomen, ...	466	20·7	47	8·3	513	18·2
Glands, ...	667	29·6	50	8·9	717	25·5
Superficial, ...	157	7·0	5	0·9	162	5·8
Genito-Urinary, ...	44	2·0	7	1·2	51	1·8
Other Situations, ...	26	1·2	20	3·6	46	1·6
Not stated, ...	—	—	17	3·0	17	0·6
	2,248	100·0	563	100·0	2,811	100·0

The outstanding feature of this table is the degree to which affections of the bones and joints predominate. They form 40 per cent. of the single lesion group, and constitute the major lesion in no less than 58 per cent. of the cases where the disease also affects other parts of the body. Most patients of this type require institutional provision for prolonged periods until the disease is healed or, at least, becomes definitely quiescent. Patients in the other groups may or may not require such treatment, depending on the chronicity of the disease, the home circumstances, and the possibility of suitable outdoor treatment.

It is important to consider next at what ages these various forms of the disease occur, and the following table shows this grouping:—

	-5 years		-15 years		+15 years		Total	
	Number	Per cent.	Number	Per cent.	Number.	Per cent.	Number	Per cent
Pulmonary, -	3	1·0	25	1·9	62	5·2	90	3·2
Bones and Joints,	135	45·1	555	42·4	525	43·6	1,215	43·3
Abdominal, -	106	35·5	310	23·6	97	8·1	513	18·2
Glands, - -	43	14·4	337	25·8	337	28·1	717	25·5
Superficial, -	7	2·3	46	3·5	109	9·1	162	5·8
Genito Urinary,	...	...	7	0·5	44	3·7	51	1·8
Other Situations,	5	1·7	19	1·4	22	1·8	46	1·6
Not Stated, -	...	...	12	0·9	5	0·4	17	0·6
	299	100·0	1,311	100·0	1,201	100·0	2,811	100·0

This table permits of several conclusions—(1) In children of pre-school age the most common forms of tuberculosis met with are those which affect the bones and joints, and also the abdomen. Together these amount to 80 per cent. of the total patients. (2) At the school age period (5 to 15 years), abdominal tuberculosis is slightly less in volume, while tuberculosis of the lymphatic glands is responsible for 26 per cent of the cases. Diseases of bones and joints are again most prevalent, 42 per cent. of the total. (3) In adults over 15 years of age disease of bones and joints (43 per cent.) and lymphatic glands (28 per cent.) are most prominent, abdominal tuberculosis is much less in volume, while disease of the skin (lupus, &c.) and genito-urinary tuberculosis are most common at these ages. It is rarely necessary to provide institutional treatment for affections of the skin or of the lymphatic glands in adults, but the other forms of tuberculosis, especially where they attack bones, joints, or the genito-urinary system, are very intractable and require long periods of institutional treatment. It is important to repeat that a large proportion of these adult affections, especially where bones and joints are involved, are the chronic forms of an affection which began earlier in life, and which might have been avoided or mitigated by appropriate treatment at the time of onset.

A further analysis has been made of the individual type which the disease assumes in the various groups, for administrative purposes. In order not to confuse the result, the "single lesion" group alone has been taken.

Disease of Bones. — The following table shows the various bones affected in 438 patients in relation to the age of the patients, and the condition of the disease as estimated at the period of the inquiry: —

	−5 Years				−15 Years				+15 Years				All Ages			
Bones affected.	Total	Active	Quiescent	Not Stated	Total	Active	Quiescent	Not Stated	Total	Active	Quiescent	Not Stated	Total	Active	Quiescent	Not Stated
Spine,	25	16	4	5	111	43	64	4	105	51	49	5	241	110	117	14
Arm,	3	1	2	...	4	2	1	1	3	3	...	...	10	6	3	1
Hand,	...	...	...	...	13	5	8	...	5	1	2	2	18	6	10	2
Finger,	23	15	6	2	23	10	13	...	1	1	...	...	47	26	19	2
Thigh,	1	1	...	...	5	4	1	...	14	10	4	...	20	15	5	...
Leg,	3	1	...	2	7	3	4	...	5	4	1	...	15	8	5	2
Foot,	6	2	3	1	17	4	11	2	10	6	2	2	33	12	16	5
Rib,	2	1	1	...	6	1	5	...	10	4	4	2	18	6	10	2
Others,	3	1	2	...	12	4	7	1	21	9	11	1	36	14	20	2
Total,	66	38	18	10	198	76	114	8	174	89	73	12	438	203	205	30

The table demonstrates a fact of considerable administrative importance as showing the preponderance of cases suffering from tuberculosis of the spine. Spinal disease was present in 241 of the cases, that is in 55 per cent. of the group, and was active in 110 cases. Ten per cent. of the cases are under 5 years, 46 per cent. between 5 and 15 years, and 44 per cent. over 15 years. Lesions affecting bones of the upper extremity were present in 75 cases, that is in 17 per cent. The chief feature of this series is the large proportion of cases where the disease was a dactylitis attacking the finger joints, the age distribution of which is of considerable interest, only one case occurring over 15 years. In 68 cases, 16 per cent., bones in the lower extremity were diseased, the process being active in 35; the bones of the feet contributing the largest number. Ribs were diseased in 18 cases, the age incidence being highest in the over 15 years' period. Only one-third of the cases showed evidence of active disease. 36 cases showed disease in other bones, such as the sternum, the pelvis, the skull, &c., the process being active in 14 cases.

Disease of Joints. — Affections of the joints were present in 450 patients, and the following table gives similar information regarding these: —

Joints	-5 Years				-15 Years				+15 Years				All Ages			
	Total	Active	Quiescent	Not Stated	Total	Active	Quiescent	Not Stated	Total	Active	Quiescent	Not Stated	Total	Active	Quiescent	Not Stated
Hip, - -	15	8	3	4	91	41	41	9	99	48	48	3	205	97	92	16
Knee, - -	14	8	5	1	64	24	39	1	49	26	23	...	127	58	67	2
Ankle, - -	6	5	1	...	18	4	14	...	25	14	11	...	49	23	26	...
Elbow, - -	4	1	2	1	31	12	19	...	21	12	8	1	56	25	29	2
Others, - -	1	1	...	...	5	...	5	...	7	4	3	...	13	5	8	..
Total, -	40	23	11	6	209	81	118	10	201	104	93	4	450	208	222	20

In joint tuberculosis the important point is the high incidence of cases in which the hip joint is involved. In the present series this joint is affected in 205 cases (or 45 per cent.), the disease being active in 92 patients. Like spinal disease, this group requires prolonged institutional treatment and similarly limits the turnover of beds. It will be noted that a comparatively small number of the cases are under 5 years, only 15 being recorded (7 per cent.). At the two succeeding age groups the percentages are 44 and 48 respectively. The knee joint provides the next largest group of cases, viz., 127, or 28 per cent.; under 5 years there are 11 per cent. of cases; from 5-15 years, 50 per cent.; and 39 per cent. at ages over 15 years. There is thus a slightly different age distribution in knee-joint lesions, as compared with those of the hip-joint, the former showing a higher proportion of cases under 15 years. The other joints of the body are relatively infrequently affected by tuberculosis. The elbow and ankle contribute the most of the cases, viz., 56 and 49 respectively, and in both it will be observed that the majority of the cases are over 5 years of age. The disease was active in 23 of the former, and 25 of the latter. Lastly, there is a series of 13 cases in which various other joints are involved, *e.g.*, wrist, shoulder. The majority of the persons affected are over 5 years.

The problem of tuberculosis of bones and joints is thus a limited one, the spine, hip-joint, and knee-joint providing 65 per cent. of the cases. The average duration of institutional treatment of patients with active disease in these regions is over 500 days.

Abdominal Tuberculosis.—In the abdominal group no attempt was made to differentiate between the types of diseases which may occur in this system. The number of cases coming under this heading is 466, of which 97, or 21 per cent., are under 5 years, a considerably higher percentage at this age compared with the other systems under consideration. In the two succeeding age periods there are 288 cases, and 81, 62 per cent. and 17 per cent. respectively. Abdominal tuberculosis thus mainly affects persons under 15 years. As in bone lesions, the disease is essentially of a chronic character, 55 per cent. of the cases sickening under 5 years, and 34 per cent. between 5 and 15 years. The disease was active in 163 cases (35 per cent.), quiescent in 293 (63 per cent.), and not stated in 10 cases (2 per cent.).

This form of tuberculosis has undergone a marked decline in incidence and severity in recent years. Tuberculous peritonitis, in its more typical and easily recognised form, is now uncommon, especially in children, and the diagnosis of abdominal tuberculosis is in many cases a matter of considerable doubt, and the above figures are given with some reserve.

Lymphatic Tuberculosis.—Tuberculosis of the lymphatic glands was the form of the disease in 667 cases, 30 per cent. of the cases showing single lesions. In almost the entire group the glands of the neck were those affected. The incidence of the disease was low under 5 years, only 43 cases, *i.e.*, 7 per cent., being recorded. From 5-15 years, and at ages over 15 years, there are approximately the same number, 316 and 308 respectively. This group is of interest inasmuch as the disease, from the point of view of onset, is mainly one of school age. At this period 45 per cent. of the cases sickened, while 28 per cent. sickened in the previous age period. This is a considerably lower percentage under 5 years than in the two systems already discussed. In 315 cases (47 per cent.) the disease was active, quiescent in 339 (51 per cent.), not stated in 13 cases (2 per cent.).

Lymphatic gland tuberculosis has also undergone a decided change for the better. The form it takes most commonly—glands in the neck or cervical gland tuberculosis—has become less acute and more amenable to treatment. Fewer cases of this kind now require institutional treatment.

Superficial Tuberculosis.—The term superficial tuberculosis includes lesions of the skin (lupus), or subcutaneous tissues, or both occurring in the same area. Disease of this type was present in 157 cases, 7 per cent. of the total. Only 6 cases are noted under 5 years. Between 5 and 15 years there are 45 cases (20 per cent.), but the great majority occur at the higher ages, 106, or 67 per cent., being recorded at ages over 15 years. From the point of view of the age at onset this group approximates towards the lymphatic, the highest percentage of cases sickening at school age, viz., 38 per cent. Under 5 years 30 per cent. sickened, while over 15 years there were 32 per cent. The disease was active in 112 cases, that is in 71 per cent. of the cases.

This type of tuberculosis is usually treated by local applications, and many of the forms it assumes yield to treatment by ultra-violet rays. There are several clinics in Glasgow at the general hospitals where special provision is made, and the outdoor clinic, established at Baird Street Reception House by the Corporation, undertakes a considerable volume of work in respect of this group, and also of the minor forms of tuberculosis, thus effecting a decided saving of sanatorium beds.

The above analysis indicates for the first time, in a detailed manner, the scope of the problem involved in a complete scheme. It discloses the relative demands made by the various types assumed by non-pulmonary tuberculosis as regards the known cases existing in the City at any one time. It has been undertaken in view of the additional facilities amounting to 328 beds at Mearnskirk Sanatorium shortly to be available for the treatment of children.

A complete scheme involves the provision of appropriate treatment suited to the necessities of each individual patient, whether in an institution, at home, or at a clinic. A rough attempt has been made by the clinical staff of each area to assess the patients in accordance with these principles, taking into account the stage of the disease, its state of activity or quiescence, its situation, the home conditions of the patient, and other relative particulars.

The following condensed summary, leaving particular affections out of account, shows the form of treatment being received by the various patients at the date of the inquiry:—

		Number		Percentages	
Receiving Dispensary Treatment—					
At Corporation Clinics, ...		1,650		58·7	
At Other Clinics, ...		177	1,827	6·3	65·0
Receiving Institutional Treatment—					
In Corporation Hospitals—					
Robroyston, ...	432				
Ruchill,...	56				
		488		17·4	
In General and Poor Law Hospitals (Stobhill 40), ...		71		2·5	
In Special Hospitals (Strathblane, &c.),		20	579	0·7	20·6
Under own Doctor, ...		...	101		3·6
Others (mostly quiescent or cured), ...		...	304		10·8
			2,811		100·0

The special scrutiny of those patients who were, when the inquiry was undertaken, at home or attending various clinics, or in other institutions, indicated on a rough and tentative basis, that approximately 317 patients required institutional treatment, over and above those already so accommodated. By far the majority of these, 170, were suffering from diseases of bones and joints, 80 patients had abdominal tuberculosis, while in 27 the lymphatic glands were affected. The largest proportion of these thus belong to the group requiring prolonged treatment.

Non-pulmonary cases dismissed from hospital during the year 1926 - 27 underwent an average period of treatment amounting to 381 days. It would thus appear that one bed per annum would be about the measure of the turnover of non-pulmonary disease of the severer kinds. The additional bed accommodation being provided at Mearnskirk will, as far as can be estimated, reasonably meet the extra demand on the basis of the analysis made above. The data elucidated by the special inquiry will aid future administration in the allocation of beds as between the various types of patient, and will serve as a basis with which to compare the experience of future years in the further control of what is apparently a diminishing factor in public health.

Note on Housing Conditions.—Indifferent housing conditions affect the administrative provision for non-pulmonary tuberculosis in two ways. (1) Patients admitted to an institution have to be retained until the disease is cured, or at least thoroughly quiescent, so as to avoid the likelihood of relapse. (2) The possibilities of home treatment are restricted and the determining factor for treatment in an institution, as against attendance at a clinic, often depends on a consideration of the home circumstances alone.

The group of 2,811 patients, analysed above, had the following distribution:—

One-apartment Houses, ...	555	(20 per cent.)
Two-apartment Houses.	1,747	(62 per cent.)
Three-apartment Houses, ...	359	(13 per cent.)
Four-apartment Houses and upwards,	110	(4 per cent.)
Not stated, ...	40	(1 per cent.)

The bulk of the patients reside in small tenement houses. It was also found that 43 per cent. of these houses were overcrowded on a basis of three persons per room. Again, in some 36 per cent. of the total cases based on rough observation of the economic conditions, the home circumstances were, for this reason, not such as to assist recovery from a tuberculous condition. These factors have an obvious bearing on the amount of provision required for institutional treatment.

BAIRD STREET ACTINOTHERAPY CLINIC.

The following notes are submitted by Dr. R. J. Peters, the Tuberculosis Medical Officer for the Northern Division of the City, who is in charge of this clinic:—

Extensive use has been made during the past year of the facilities for the treatment of patients suffering from minor degrees of surgical tuberculosis by actinotherapy at Baird Street Reception House.

The apparatus now installed there consists of six 30 amperes Westminster arc lamps, and eight 20 amperes arc lamps. The six Westminsters were installed in June, and are used mostly with metal-cored carbons. Besides these there are three mercury vapour lamps, two of which (one 3·5 and one 7 amperes) are of the K.B.B. atmos pheric type, and the other is a Hanovia "Alpine Sun." There is also a "Uviator" air-cooled lamp for local applications. A few remarks regarding the working of these lamps may be apposite. The Westminster lamps when taking their full amperage have an arc about 1½ inches in length. An arc of this length is very susceptible to currents of air and is easily blown out. Rather than sacrifice the ventilation of the treatment room, it is found more convenient to diminish the amperage slightly, and, of course, compensate for this by lengthening the exposure. The lamps burned steadily and satisfactorily at 23-25 amperes.

The Hanovia mercury vapour lamp gives a larger output than the K.B.B., but we have not had it in use long enough for us to venture an opinion as to the relative lasting powers of these two types of lamp. The air-cooled "Uviator" works well and gives little trouble.

The patients have a spray bath before treatment, and also in many cases after treatment; the first is insisted upon, but the latter is left to the patient's discretion. On the whole, patients have shown great enthusiasm for the treatment, and the staff have been considerably gratified by the response to requests for regular attendance.

The clinic is open on three days per week (Monday, Wednesday, and Friday), and the average attendance on these days since July has been 120. In addition to these, some 20 indoor patients received treatment. These indoor patients are mostly children, who, although suitable for out-patient treatment, are unable to attend as out-patients for some reason, or whose home conditions are very unsatisfactory. Some are admitted pending a vacancy in one of the tuberculosis hospitals.

An interesting feature of the clinic is the fact that probably the busiest time of the day is from 4 p.m. to 8 p.m., when certain school children and people who are carrying on with their employment during the day, attend for treatment. There are several cases of lupus of long standing who have attended after their work for upwards of a year. The great majority of patients have general and local treatment combined. The general light baths are given usually with the carbon arcs, and the local treatment with the mercury vapour lamps. The large (7 amperes) mercury vapour lamp is, of course, used for general irradiation, and to vary the treatment of cases who have had a course of the carbon arcs.

The "Uviator" is used practically entirely in the treatment of lupus. Its application is, however, limited. It is found that patients are not tolerant of third degree burns from this lamp any more than from any other source of irritation, and to treat the more resistant cases of lupus, without giving doses of that magnitude, means prolonging the treatment almost indefinitely.

The amount of local treatment, given as it is to practically three-quarters of the cases attending, means a great deal of work for the staff. The nursing staff of the Reception House are all made available for duty in the light treatment room when required. The general supervision is in the hands of the matron with a sister as her chief assistant. Besides the matron or sister there are one or two nurses in the room according to necessity.

The clinics commence at 10 a.m., and male cases are treated until mid-day. From 1.30 till 4 p.m. female cases and children are dealt with. About 4.30 p.m. some male children who are attending school come for treatment, and an hour later female school children arrive. The evening from 6.30 is devoted to males and females who are working during the day, and the clinic closes about 9 p.m. In the evening when both sexes are present, the males have their general treatment in a separate room on the ground floor, where the 20 amperes carbon arcs are housed.

On Tuesday afternoon there is a consultation hour, and certain special cases are dealt with, and the initial examinations of new patients are made. A few special cases are also taken on Thursdays. The amount of local treatment given necessitates great care being taken with regard to the eyes of the operators. Too darkly tinted glasses are unsuitable because of the interference with vision and the consequent evils of eye-strain. Crookes' "B" was found to be a most suitable glass. Lenses of this glass are put into goggles of a visor pattern, which prevent light from striking the glass directly, and also prevent it passing in at the sides. The goggles are, of course, made of non-inflammable material.

The total number of cases dismissed from the clinic during the year was 216, and the number on the register at the end of December was 203. Of the dismissals, those were regarded as healed who completed their treatment, and in whose cases the lesion for which they were receiving treatment was healed. It does not imply that their tubercular infection was eradicated, nor that the lesion would not recur. The immediate lesion for which they were receiving treatment was in these cases firmly healed, and many patients were kept on for a long time after this had happened.

As far as results with reference to the general health of the patients is concerned, the clinic amply justifies itself. Those who are working state definitely that they are more capable of carrying on. In children, too, some general benefit is noted, but there does not seem to be any ground for belief that in these tubercular people there is any gain in weight which could be ascribed to the application of ultra-violet rays. This is applicable both to children and to adults. The weights of the children who were treated as indoor patients form an interesting comparison with those of the out-patients. The advantages which the indoor patients had over the others were, firstly, that their diet was more satisfactory in all probability, and secondly, that they had more cubic space. To these one might add more regularity in meals and sleep. They had no natural sunshine, and the air which they breathed was that of the centre of the City.

The following table gives results in the principal diseases treated :—

Non-Pulmonary Tuberculosis.

Results of Light Treatment at Baird Street Clinic.

	Out Patients. Healed.	Out Patients. Not Healed.	Out Patients. Average duration of treatment (in months). Healed.	Out Patients. Average duration of treatment (in months). Not Healed.	In Patients. Healed.	In Patients. Not Healed.	In Patients. Average duration of treatment (in months). Healed.	In Patients. Average duration of treatment (in months). Not Healed.
Cervical Adenitis, ...	37	14	5	4	8	2	4·3	3
Lupus, ...	9	8	9·9	6	1	—	6	—
Abdominal Disease, ...	4	3	2·5	4·6	10	7*	3·1	3·1
Bone and Joint Disease, ...	3	14	11·3	4	2	3	3	6·6
Dactylitis in Infants, ...	—	1	—	2	3	2	4·1	3·5
Dactylitis in older Children	1	—	6	—	3	1	6·6	5
	54	40	—	—	27	15	—	—

* 3 definitely improved. 4 not improved.

Post-Encephalitis Lethargica, 5 = { 2 Improved. (Average Treatment 3½ months).
3 Not improved. ,, ,, 2⅓ ,,

Epididymitis, ... 2 Healed. (Both had institutional treatment with operation previously).

Axillary Adenitis, ... 1 Healed. (7 months' treatment).

In addition to these the following were admitted to the clinic, but either failed to attend or ceased attending after a few treatments :—Cervical adenitis, 11; lupus, 6; abdominal disease, 4; bone and joint disease, 7; dactylitis in older children, 2; dactylitis in infants, 1; axillary adenitis, 1—32.

These, together with cases of other diseases, such as bronchitis, &c., which were admitted more or less from an experimental point of view, bring the total number of cases dealt with and dismissed during the year up to 216.

Of the 203 patients reported as attending the clinic at the end of December, 73 were cases of cervical adenitis and 64 were cases of lupus. The remainder was made up of the same type of case as shown in the dismissal reports. Several cases of trachoma were attending, 6 in all, and the Ophthalmologist is satisfied that they are making good progress.

In view of the increasing numbers attending the actinotherapy clinic, and in view of the advantages of the constant and close supervision which is exercised over the patients as a result of their attendances, it will probably be necessary to make increases in the nursing staff of the reception house in order to cope with the work.

OBSERVATIONS ON THE TREATMENT OF TUBERCULOUS CHILDREN WITH ULTRA-VIOLET RAYS.

The following notes by Dr. T. M'Gowan, formerly in charge of the tuberculosis wards at Ruchill Hospital, and now Clinical Tuberculosis Officer for the south-western division of the City, refer to the treatment of cases in Ruchill :—

For helio-therapeutic purposes the summer of 1926 might be considered to be comparatively good, and it was found that children in a fairly fit condition and exposed practically all day to solar rays, showed, with a few exceptions, definite general improvement. In a few cases there were definite febrile disturbances necessitating termination of treatment. With the autumnal decline of the sun the children appeared to lose some of their vitality, although no evidence of increased local activity was detected. It was this retrograde state which prompted the use of the Quartz Mercury Vapour Lamp.

In November, 1926, a beginning was made with 25 children from ages 2 years to 12 years, and considered to have definite tubercular lesions. The installation consisted of a Kelvin, Bottomley, & Baird lamp of the atmospheric type, and the children were made to recline on mattresses situated about one metre from the lamp. While radiation was being done no exercise was permitted, but previous to, and following upon, the actual time of exposure, the usual routine exercises were permitted. Radiation was carried out every forenoon excepting Saturdays and Sundays, and was continued for a period of three months. At the end of that time a period of rest was given of six weeks, to be followed by a further course of treatment for six weeks. It was ultimately felt that the shorter periods of treatment with the intervening rests were much more beneficial than the continuous prolonged radiation. Each child received an initial exposure of two and a half minutes anteriorly and posteriorly. This time was increased weekly to five, then to ten, and finally to fifteen minutes. It is to be noted that only the Quartz Mercury Vapour Lamp was used, and therefore the results cannot be attributed to any diathermic agency.

In the first series of cases treated each child was considered to have a definite tubercular focus, while the second series was made to include cases in whom there were suspicions of tubercular mischief, and some who were definitely non-tubercular. The clinical diagnosis in each case was as far as possible confirmed by radiological examination.

Tables A, B, and C give an indication of the diversity of the conditions treated, and allots each to its age group. It will be seen that abdominal tuberculosis, including tabes mesenterica and tubercular peritonitis, and doubtful cases account for half the number treated, and those cases are chiefly in the 2-5 age groups. In quite a number of cases a diagnosis of tuberculosis affecting more than one system, *e.g.*, tubercular abdomen with dactylitis, was made. Of the 43 cases actually treated 25 of them had special enquiry made regarding their pulse, and 13 of these 26 had blood examinations performed. The latter 13 cases were boys, ranging from 5 to 15 years.

A short résumé of the conditions, general and local, of the patients before treatment is herewith given. In the first series of cases it must be understood that the majority of the children had been in residence for quite a lengthy period of time prior to radiation, and had derived all the benefits not only from the general institutional measures, but also from the sun treatment during the summer months. The second series of cases consisted only of children admitted to hospital subsequent to the summer months, yet long enough to assume a stationary condition. Of the local conditions all the definite cases showed evidence of a low degree of activity or were doubtfully quiescent.

The tubercular peritoneal cases with ascites had preliminary (operative) removal of the fluid and introduction of oxygen into the peritoneal cavity. The tabes mesenteric cases showed definite fulness of abdomen, with tenderness to palpation, especially in the region where enlarged glands could be felt, and complained of diarrhœa or troublesome constipation. The phthisis cases showed definite disease of the lungs. In one particular case there was marked cyanosis and toxæmia with rapid respiration but afebrile.

In dealing with results an effort will be made to outline the treatment from a general and local aspect, with a close enquiry upon the body weight, pulse, temperature, and blood elements. It is proposed to deal with the general effects of ultra-radiation under two headings, namely, immediate and remote. A very definite change resulted after two or three weeks' treatment, and this was in the nature of a stimulus. The children became bright and cheerful in disposition, and seemed to be full of life and energy; indeed, they might be described as becoming wild and mischievous. Even the quietest of the boys demonstrated this activity. This in the extreme might be harmful, yet it was indicative of local improvement. Much weight is placed on lassitude in tuberculous children as being diagnostically and prognostically a bad omen. Besides this invigorated state the skin assumed a healthier appearance; where toxæmia was originally present, it was conspicuous by its absence. Where there was troublesome cough, it either lessened or disappeared entirely, with a corresponding diminution or absence of sputum. Appetite was greatly improved. The bigger boys would take a diet equal to an adult male in the sanatorium, and their weight curve rose accordingly. Throughout the course no febrile disturbances directly attributable to the treatment occurred, but interesting variations were met with in observing the pulse rate.

Of the remote results increase in stature was noticeable in all cases. Unfortunately no direct readings were taken, but proof was given of this fact when their garments had to be lengthened. There were also various degrees of pigmentation, and in a few a fine branny desquamation, but no conclusion regarding the beneficial effect or otherwise of pigmentation could be definitely made, although the feeling was that in the cases showing pigmentation improvement was greater.

Local Results.—Of all the various manifestations of the disease, it is extremely difficult to state which condition improved most under treatment, and this can be especially appreciated when one remembers the difficulties there are—in firstly diagnosing mediastinal adenitis. and secondly in estimating the improvement in such cases. In all the mediastinal cases definite root-glands were demonstrated in X-rays, and actual improvement, as seen by the skiagraph, was not so marked at the end of the course as to be demonstrable. It is worthy of note that the prominence of the superficial veins of the chest wall did not become less prominent after treatment.

The experience was that abdominal cases of the peritoneal type with ascites made the most rapid and satisfactory recovery. Abdominal cases did well whether they were tabes mesenterica or not. In the tabes mesentericas a very definite difference in abdominal condition was appreciated. In place of the tender abdomen with palpable glands and frequent attacks of diarrhœa and constipation one obtained soft, doughy abdomens with indefinite glandular enlargement, no tenderness and a normal state of the bowel.

Of 7 cases of phthisis in young children 3 cases did remarkably well. They were originally afebrile, but had quite a fair degree of toxæmia, with some cyanosis. Cough was slight in amount and weight stationary. Treatment certainly did much in clearing up the undesirable symptoms, and in diminishing the moist sounds heard in auscultating the chest. The fourth case was a girl of 12 years, who had chronic phthisis, with a cavity formation of the adult type. Under treatment she improved, but later lost weight with increased toxæmia, but no febrile disturbance. Her cough became more irritable, and this was the only evidence to support a focal reaction. Treatment was at once discontinued, and she in three weeks' time regained all that was lost, and seemed to improve steadily thereafter. It would seem that too great stimulation had been given and followed by a definite reaction. Cases with bone disease were complicated by abdominal condition, and showed no evidence of active disease. In a similar way the cases of tubercular adenitis were complicated by manifestations of the disease elsewhere.

Of the non-tubercular forms, "Bronchitis and Bronchiectasis," a definite improvement was obtained focally by the disappearance of rales and rhonchi.

Group A—Observations on weight only.—This group deals with a series of cases where a special investigation was made into the effects of Ultra-Violet Ray treatment upon weight only. Table A shows the 18 cases composing the group divided into sections of definite, doubtful, and non-tubercular disease. It will be seen that 4 cases had a double infection. Patients after admission to sanatoria invariably increase in weight during the first few weeks, and then remain stationary. The charts reproduced include the weight for some time prior to treatment. It will be seen that during the summer months the children increased in weight under the solar treatment, and when exposed to the Quartz Mercury Vapour Lamp they responded to the stimulus by losing a little, and then increasing progressively during the entire course of treatment. In the rest periods the weight was either maintained or slightly increased. The two cases of rickets with enlarged abdomens included in this group responded equally well to the treatment, and showed less remissions than in definite tubercular cases.

GROUP A

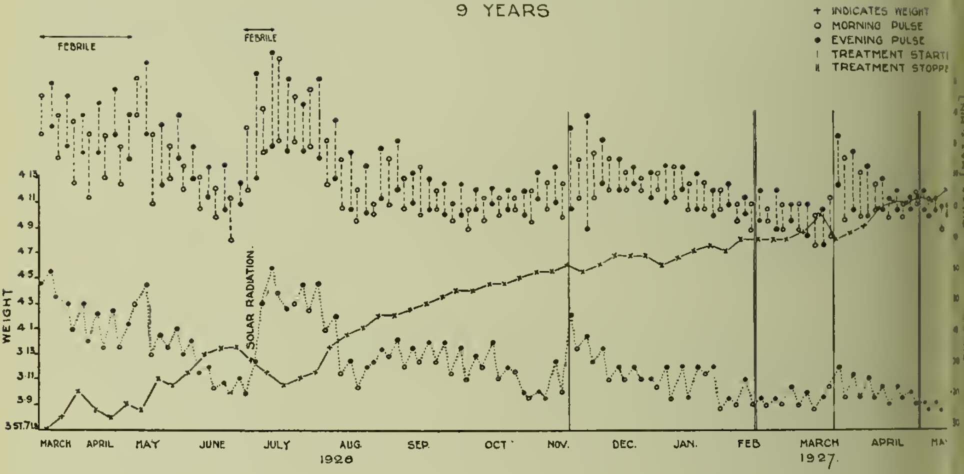
	Definite Cases						Doubtful Cases	Non-Tubercular
Age	Abdomen	Abdomen with Ascites	Phthisis	Bones	Glands	Double Infection	Mediastinal Adenitis	Rickets Bronchitis
1-2	1	...	...	1	...	1	...	...
2-3	2	1	...	...	...	...	..	...
3-4	1	...	...	...	...	...	...	1
4-5	2	...	1	...	...	...	...	1
5-10	2	...	1	...	...	1	...	...
10-15	...	1	1	...	...	...	1	...
15-25	1	...	2	1	1	2	...	...
	9	2	5	2	1	4	1	2
	15 Cases						3 Cases	

Group B—Observations on weight, pulse rate, and blood cells in definitely tubercular patients (*See Appended Notes*). — The weight curves corresponded to those in Group A, but here a slight fall in weight was more frequently met at end of first week. The records of the pulse rate, like those of the weight, were taken from the time of admission, so that a more complete picture could be given. Morning and evening pulses were taken at usual routine times. The lower graph in the Charts I and II, on page 136, indicates the weekly average pulse rate, while the upper graph shows the maximum and minimum pulse recorded during the week. It will be seen that very definite reaction followed the exposure in the increase of pulse rate and amplitude of the swing. This immediate increase took at least three weeks to subside, and, in some cases, a much longer period. The cases which received a second course of treatment showed a reaction less marked and less prolonged than the first. It was felt that the longer the time taken for the pulse to regain its normal limit the more certain was the case tubercular.

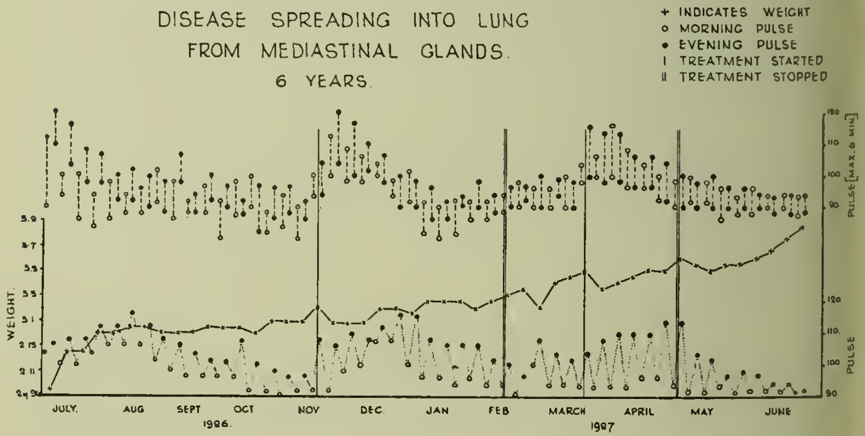
It is worthy of note that no case was found to be so strongly stimulated as to cause febrile reaction.

Examination of the blood consisted in the enumeration of the white and red corpuscles and a differential count of the white cells. The procedure was to perform the examination before and after treatment. and at equal intervals after food. The results were disappointing, and no apparent conclusion could be drawn. At most there was an increase in white cells, and a differential count of these cells did not show any definite alteration from the normal.

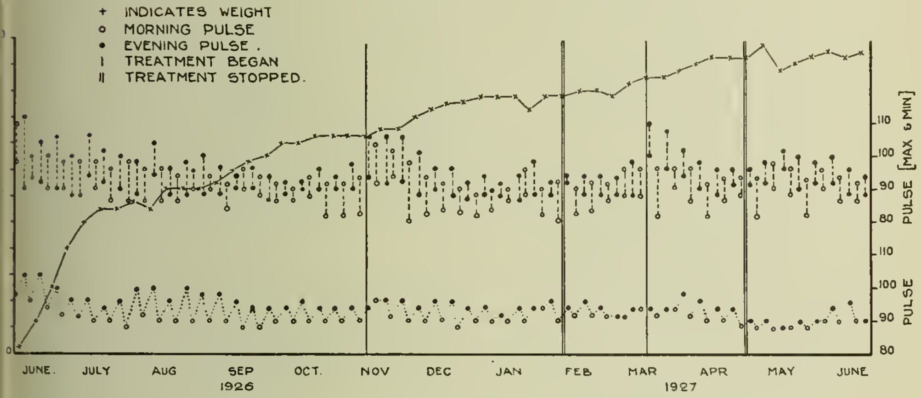
TUBERCULOUS PERITONITIS c̄ ASCITES.
9 YEARS



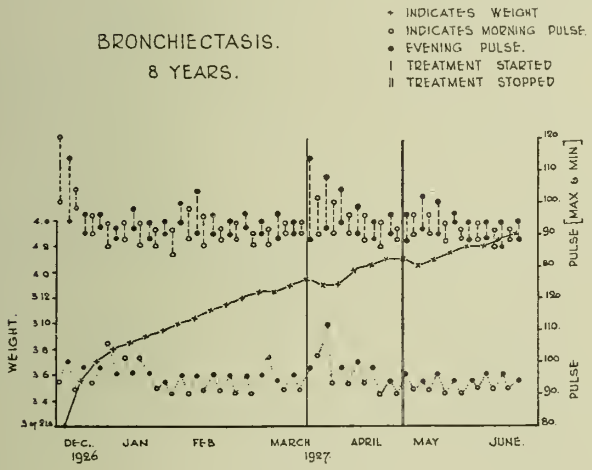
DISEASE SPREADING INTO LUNG
FROM MEDIASTINAL GLANDS.
6 YEARS.



TUBERCULOUS ABDOMEN ?
6 YEARS.



BRONCHIECTASIS.
8 YEARS.



GROUP B.—NOTES ON INDIVIDUAL

Case	Sex	Age	Diagnosis	No. of Courses of Treatment.	Results		Variation in Pulse immediately after Radiation
					General	Focal	
1	F.	3	Elbow Abdomen	2	Much improved	Quiescent	Definite
2	F.	3	Abdomen	2	Improved	Do.	Do.
3	F.	4	Do.	1	Not improved	Active	Very definite
4	M.	7	Abdomen Mediastinal Adenitis	2	Much improved	Quiescent	Definite
5	M.	14	Tabes Mesenterica	2	Very much improved	Do.	Do.
6	F.	5	Abdomen Ascites	2	Improved	Doubtfully quiescent	Very definite
7	M.	9	Do.	2	Very much improved	Quiescent	Do.
8	M.	2½	Phthisis	2	Do.	Much improved	Definite
9	M.	3	Mediastinal Adenitis Early Phthisis	2	Do.	Quiescent	Do.
10	M.	6	Mediastinal Adenitis Phthisis	2	Much improved	Do.	Very definite
11	M.	8½	Phthisis	1	Improved	Doubtfully quiescent	Definite
12	M.	16	Phthisis "Basal" Bronchitis	2	Much improved	Quiescent	Very definite
13	F.	3	Cervical Adenitis Sinus	1	Improved	More discharge	Definite

GROUP C.—NOTES ON INDIVIDUAL

1	M.	3	Abdomen?	1	Improved	No abnormality detected	Nil
2	F.	3	Do. ?	2	Do.	Do.	Irregular all the time
3	F.	4	Do. ?	1	Much improved	Do.	Doubtful, if any
4	M.	6	Do. ?	2	Very much improved	Do.	Nil
5	M.	9	Mediastinal Adenitis Abdomen?	2	Do.	Still prominence of sup. veins of chest.	Nil
6	F.	4	Phthisis? Pleurisy	1	Improved	No abnormality detected	Nil
7	M.	7	Phthisis?	1	Much improved	Do.	Slight
8	M.	8	Mediastinal Adenitis Phthisis?	2	Improved	Still slight prominence of veins	None
9	M.	8	Phthisis?	0	Improved	Nothing definite	...
10	M.	9	Mediastinal Adenitis	1	Very much improved	Do.	Slight
11	M.	8	Bronchiectasis	1	Do.	Few moist sounds	Do.
12	M.	13	Bronchitis	1	Do.	No moist sounds	Do.

Patients with Definite Tubercular Affections.

Time for Pulse to Subside		Weight		
1st Course	2nd Course	Immediately after	Later	Remarks
4 weeks	2 weeks	Irregularly increased		...
4 ,,	2 ,,	Slight fall	Slow increase	...
Unsettled for several weeks		Fall	Irregular	Treatment discontinued after 3 weeks because of eye trouble
3 weeks	*	Slight fall	Progressive increase	* Variation more apparent in maximum and minimum pulse
8 ,,	6 weeks	Do.	Do.	...
4 ,,	3 ,,	Definite fall	Irregularly increased	Oxygen injected to replace fluid prelim. to light treatment.
8 ,,	3 ,,	Slight fall	Steadily progressive	Do. do.
6 ,,	Nil	Slight increase	Irregularly increased	Disappearance of dyspnœa and cyanosis
?	*	...	...	* Pulse remained increased in rate throughout course and rest periods
9 weeks	6 weeks	Slight fall	Steadily progressive	...
...	3 ,,	Definite fall	Do.	...
10 weeks	7 ,,	In statu quo	Steadily increased	Admitted just before light treatment began
4 ,,	...	Fall	Improved	Treatment had to be discontinued, and subsequently healed

Patients with Doubtful Tubercular Affections.

1st Course	2nd Course	Immediately after	Later	Remarks
...	...	Slowly increased		...
...	...	Irregular		Very wild and cross child
...	...	Slight increase		...
...	...	Steadily progressive		Slightly rachitic
...	...	Do.		...
...	...	Weight maintained		...
...	1 week	Steadily progressive		...
*2 weeks	...	Do.		* Variation in pulse rate only seen in maximum and minimum
...	...	...	..	Cyanosis disappeared
...	1 week	Slight fall, then steadily progressive		...
...	Do.	Do.		...
...	2 weeks	Steadily progressive		...

Group C — Observations on Patients with doubtful diagnosis.— There are in this group ten cases where diagnosis was doubtful, and two cases where the condition was bronchitis and bronchiectasis. The weight curves show that, with the commencement of light treatment, the weight gradually increased and was maintained throughout the course, unaccompanied by any initial fall in weight as seen in Group B. As will be seen from Charts III and IV, on page 137, the cases in this group had little or no reaction in pulse rate at commencement of the course—where a slight reaction resulted it was found to subside after a week.

Here again the blood examination gave no definite results.

There is no doubt that ultra-violet rays have a stimulating effect on all children, but the stimulation causes a greater reaction in tubercular cases. In such cases there is always the danger of over-stimulation. It is felt that the stimulation in tubercular cases takes the form of a mild auto-inoculation. This is borne out in the weight and pulse tracings of Group B, where immediately after treatment begins a slight fall in weight occurs, and simultaneously there is a marked and sustained increase in pulse rate. The auto-inoculation is therefore directly proportional to the dosage, and so long as the auto-inoculation is not excessive, beneficial results will be obtained The absence of febrile disturbance and yet definite reactions, as demonstrated by the pulse rate, emphasises once more the importance of pulse rate in tuberculosis.

SECTION VI.

VENEREAL DISEASES.

The new clinic at Black Street, a plan of the ground floor of which is shown on page 142, was opened in October, and during the last three weeks of the year the average weekly attendances at medical sessions slightly exceeded 300. This additional provision for males has relieved the pressure at the Broomielaw Dispensary, where only five sessions are now held per week; the sessional attendances, however, maintain a high level. The opening of the new Centre at Black Street has not materially affected the numbers attending at the Bellahouston Dispensary; the question of providing more adequate accommodation at the latter Centre is under consideration.

Hitherto the accommodation for in-patient treatment in Belvidere Hospital has not been fully taxed, but towards the end of the year all the beds were fully occupied. The patients treated there are chiefly sufferers from acute complications of venereal diseases. Regulations forbidding the admission of visitors still obtain, and these help in maintaining the essential secrecy of the scheme.

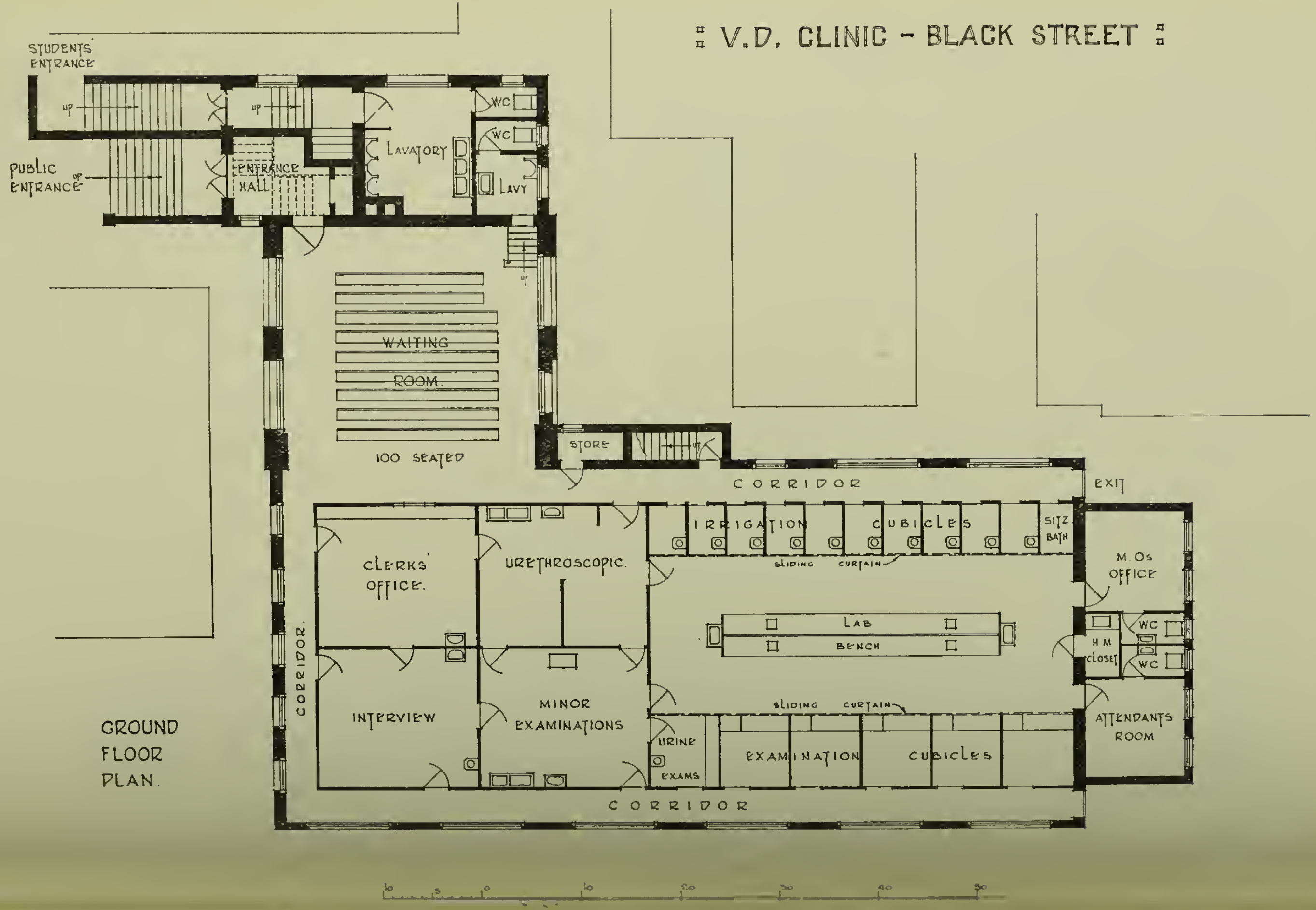
As in former years, lectures on venereal diseases were given in various parts of the City under the auspices of the Glasgow Burgh Health Insurance Committee, the Scottish Committee and Glasgow Branch of the British Social Hygiene Council and the Glasgow Corporation. Such lectures are justified by the large attendances and the apparent interest of the audiences. There can be little doubt that these propaganda lectures fulfil an invaluable function in the Venereal Diseases Scheme.

Another important branch of the scheme is the treatment of persons suffering from venereal diseases by their own medical practitioner. For this purpose Salvarsan substitutes were issued to 42 doctors; the same number was supplied last year, and it appears that the same practitioners make application for these substitutes every year, presumably indicating that a certain coterie of medical men practise the treatment of these diseases. The majority of general medical practitioners prefer to send their patients to these specialists or to public clinics. The number of doses of Salvarsan substitutes issued to any one doctor varied from 3 to 144, and the total number of doses issued during the year was 1,156, compared with 1,163 in 1926.

WORK OF THE CENTRES.

During the year the total number of new cases treated at the various Centres, including those treated at the Child Welfare Centres, was 5,622, an increase of 248 as compared with the

V.D. CLINIC - BLACK STREET



GROUND FLOOR PLAN.

previous year. Of the total 5,622 new cases, 885 proved not to be venereal disease, so that the actual number of new cases of venereal disease treated at the clinics during the year was 4,737, an increase of 247 cases from the previous year.

There has been a decrease of 101 cases of syphilis not associated with any other venereal disease, while the number of cases of gonorrhœa has increased by 332 compared with 1926. There is, therefore, a continuance of the drop in syphilis and of the increase in gonorrhœa, as noted in the Annual Report for the preceding year.

The number of cases proved not to be venereal disease, viz., 885, indicates presumably the tendency to utilise the clinics after exposure to risk of infection. It should be noted that in this total there are included 268 cases examined at the Child Welfare Clinics, and referred to the special V.D. officer for an opinion. These cases differ from the patients who attend at an ordinary V.D. clinic, in that they had no reason to suspect a venereal disease infection.

Negotiations have been proceeding with the Directors of the Royal Maternity Hospital for the establishment of a clinic for the treatment of women and children attending the ante-natal and post-natal Centre in that institution, and a satisfactory arrangement has been reached. The clinic will commence to function during the early part of 1928.

The slight reduction in the total number of cases who attended at Broomielaw is due to the opening of Black Street clinic in October, as the majority of new cases were sent to the latter Centre. The new cases registered at Bellahouston Dispensary and Western Infirmary Dispensary show a considerable increase, whereas there have been slight diminutions in the new cases registered at the Royal Hospital for Sick Children and the Eye Infirmary.

In addition, there has been a slight increase in new female cases registered at the Baird Street Centre, whereas the new female cases registered at the Women's Hospital is maintained at the same level as during 1926.

The average number of days' residence for in-patients was 51.6, which compares with 60.8 for 1926; this reduction is due to a greater demand for indoor treatment of the more acute cases of the disease. The average attendances per out-patient was 32.2, compared with 32.8 for 1926.

The following is a summary of the returns made by each Centre during the year. The work performed at the Child Welfare Centres is shown separately for comparison with 1926:—

Patients treated at the sever

	Black Street.	Belvidere Hospital	Western Infirmary		Victoria Infirmary	
In-Patients—						
New cases suffering from—	M.	M.	M.	F.	M.	F.
Syphilis, ...	—	29	6	6	6	5
Gonorrhœa, ...	—	77	—	—	—	—
Soft Chancre, ...	—	5	—	—	—	—
Syphilis and Soft Chancre, ...	—	3	—	—	—	—
Syphilis and Gonorrhœa, ...	—	10	—	—	—	—
Gonorrhœa and Soft Chancre,	—	2	—	—	—	—
Balanitis, ...	—	4	—	—	—	—
Venereal Warts, ...	—	2	—	—	—	—
Stricture, ...	—	2	—	—	—	—
Conditions other than Venereal,	—	4	—	—	—	—
Total, ...	—	138	6	6	6	5
			12		11	
Aggregate Days' Residence,	—	4,957	259	276	87	127
			535		214	
Average Days' Residence, ...	—	35·9	44·6		19·5	
Out-Patients—						
New cases suffering from—						
Syphilis, ...	57	—	160	92	10	19
Gonorrhœa, ...	225	—	97	50	—	—
Soft Chancre, ...	3	—	16	—	—	—
Syphilis and Soft Chancre, ..	—	—	—	—	—	—
Syphilis and Gonorrhœa, ...	3	—	1	1	—	—
Gonorrhœa and Soft Chancre, ...	1	—	—	—	—	—
Balanitis, ...	23	—	—	—	—	—
Venereal Warts, ...	—	—	—	—	—	—
Stricture, ...	—	—	—	—	—	—
Conditions other than Venereal,	55	—	34	7	—	—
Total, ...	367	—	308	150	10	19
			458		29	
Aggregate Attendances, ...	7,125	—	6,466	5,216	331	417
			11,682		748	
Average Attendance, ...	19·4	—	25.5		25·8	
Pathological Examinations—						
Wassermann Reactions, ...	136	87	1,578		592	
Spirochætes, ...	44	2	—		—	
Gonococci, ...	278	65	279		41	
Totals, ...	458	154	1,857		633	

RES DURING THE YEAR 1927.

lahouston spensary		Lock Hospital		Broomielaw Dispensary	Baird Street Reception House		Sick Children's Hospital		Eye Infirmary			Total
I.	F.	F. Ad.	Ch.	M.	M.	F.	M.	F.	M.	F.		
–	4	10	67	—	3	10	7	6	15	13	=	187
–	6	197	13	—	—	9	—	—	—	—	=	302
–	1	—	—	—	—	—	—	—	—	—	=	6
–	—	—	—	—	—	—	—	—	—	—	=	3
–	5	72	—	—	—	—	—	—	—	—	=	87
–	—	—	—	—	—	—	—	—	—	—	=	2
–	—	—	—	—	—	—	—	—	—	—	=	4
	—	—	—	—	—	—	—	—	—	—	=	2
–	—	—	—	—	—	—	—	—	—	—	=	2
–	1	1	2	—	—	—	—	—	—	—	=	8
-	17	280	82	—	3	19	7	6	15	13	=	603
17		362			22		13		28			
	442	15,485	5,525	—	282	1,258	226	594	761	804	=	31,083
442		21,010			1,540		820		1.565			
26·0		58·0		—	70·0		63·1		55·9			51·6
0	42	68	78	306	6	57	19	51	94	106	=	1,275
0	42	223	15	1,352	—	44	—	—	—	—	=	2,428
1	—	—	—	8	—	—	—	—	—	—	=	48
2	—	—	—	—	—	—	—	—	—	—	=	2
1	11	78	3	21	—	3	—	—	—	—	=	132
–	—	—	—	—	—	—	—	—	—	—	=	1
9	—	—	—	131	—	—	—	—	—	—	=	173
3	—	—	—	7	—	—	—	—	—	—	=	10
2	—	—	—	7	—	—	—	—	—	—	=	9
8	59	26	16	152	16	59	46	61	—	—	=	609
6	154	395	112	1,984	22	163	65	112	94	106	=	4,687
780		507			185		177		200			
0	7,877	14,734	1,113	75,987	144	2,651	714	1,789	3,216	2,689		
,507		15,847			2,795		2,503		5.905		=	151,099
36·5		31·3		38·3	15·1		14·1		29·5		=	32·2
907		1,260		877	360		803		1,441		=	8,041
77		—		252	—		—		—		=	375
,812		8,662		1,983	212		—		—		=	13,332
,796		9,922		3,112	572		803		1,441		=	21,748

TREATMENT AT THE MATERNITY AND CHILD WELFARE CENTRES.

The provision for diagnosis and treatment of venereal disease at the four Child Welfare Centres remains the same as in 1926. A weekly session is held at five ante-natal clinics, and at two of the Centres—Partick and Avenuepark Street—one Medical Officer carries on both ante-natal and V.D. clinics concurrently. A comparison of the following table for 1927 with the figures for 1926 shows a decrease in the number of new cases seen, and the decrease in the number of cases suffering from syphilis is marked. It may be that the provision of this treatment at the Child Welfare Centres is now having a controlling effect on venereal disease, but it must be noted that there has been a diminution in the number of cases in attendance at the Child Welfare clinics generally at all Centres during 1927. As all cases attending the venereal disease clinic must be referred from the Child Welfare clinics, one would expect a coincident drop in the venereal figures for the past year.

The following is a table of the number of cases treated at each Centre during 1927:—

Work Performed at Child Welfare Centres.

	Orr Street.		Cowcaddens		Adelphi Street, S.S.		Maxwell St., Partick		Maryhill				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F	M.	F.	Tot
Out-Patients—													
New Cases suffering from Syphilis,	3	14	—	7	—	3	—	9	1	6	4	39	
Gonorrhœa,	—	2	—	2	—	10	—	3	—	2	—	19	
Mixed Infection,	—	1	—	—	—	1	—	—	—	—	—	2	
Conditions other than Venereal,	15	63	8	61	2	29	5	48	1	36	31	237	
Total, ...	18	80	8	70	2	43	5	60	2	44	35	297	
	98		78		45		65		46				
Aggregate Attendances,	43	463	36	517	29	418	11	252	13	273	132	1,923	2,
	506		553		447		263		286				
Average Attendance,	5·2		7·1		9·9		4·05		6·2		—		
Pathological Examinations—													
Wassermann Reactions,	139		128		67		84		68		—		
Gonococci,	19		28		36		12		13		—		
Total, ...	158		156		103		96		81		—		

From the figures of the table it will be seen that a total number of 43 cases of syphilis, 19 cases of gonorrhœa, and 2 cases of mixed infection have been diagnosed. An analysis of the syphilis cases shows that 7 are cases of congenital syphilis, the remaining 36 being cases of mothers suffering from syphilis in a latent form, the presence of the infection being suspected either from the appearance of the child or from the fact that the mother had a suggestive obstetric history. During 1927 anti-specific treatment was given to 34 pregnant women and the following is the result of the pregnancies:—

Healthy Children, ...	20
Still-birth,...	2
Infected Children, ...	3
Miscarriage, ...	1
Not Terminated,...	8

In last year's Report reference was made to the fact that the existence of the specific infection should be diagnosed at an early stage in pregnancy. To ensure a healthy child, treatment must be begun by the third month. With the earlier diagnosis secured this year, the usual expectation of a healthy child has been realised more fully than in any previous year.

Of the 19 cases of gonorrhœal infection, 8 were diagnosed in pregnant women. All these cases were rendered non-infective before the termination of pregnancy, and no case of gonorrhœal ophthalmia neonatorum in the child occurred. One case of gonorrhœa occurred in a child of four years, whose mother was also found to be infected. The remaining 9 cases were diagnosed in patients who had given birth to children who subsequently developed gonorrhœal ophthalmia neonatorum.

On examination a number of patients at an ante-natal clinic are found to be suffering from a purulent vaginal discharge not gonococcal in origin. Such cases are regarded as a possible source of danger to themselves during labour and the puerperium, and every effort is made to clear up the condition before the termination of pregnancy.

The two cases of mixed infection were found in post-natal patients.

Reference must again be made to the highly efficient services of the Almoner Nurse(whose zeal in following up the cases contributes very largely to the success of the clinics.

RESULTS OF TREATMENT.

The following table is taken from the returns for the year ended 31st May, 1927, and shows that a considerable percentage of patients ceased to attend before completing treatment. The number of patients who ceased to attend before completing a course of treatment has increased yearly for several years, and in 1927 reached 2,572 in number, *i.e.*, 607 in excess of the number of such cases in 1926. The number of cases ceasing to attend after completing a course of treatment and before final tests as to cure had been made was 677, compared with 847 in 1926.

	Syphilis		Gonorrhœa		Soft Chancre		Mixed Infections		Conditions other than Venereal		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total Number of Persons under treatment—												
From 1926, ...	1,044	1,127	414	195	8	1	44	148	—	—	1,510	1,471
During 1927, ...	830	662	2,105	594	38	—	64	193	323	512	3,359	1,961
Total, ...	1,874	1,789	2,519	789	46	1	108	341	323	512	4,869	3,432
Percentage of above who ceased to attend—												
(*a*) Before completing course of treatment for	34·3	9·1	68·4	10·3	13·1	—	31·5	14·0	—	—	*50·2	*10·0
(*b*) After completing a course of treatment but before final tests as to cure of ...	5·4	20·1	2·1	11·9	13·1	—	2·8	16·7	—	—	3·6	17·5
Percentage of above transferred to other centres after treatment for	6·2	3·9	5·4	3·9	10·8	—	12·0	1·7	—	—	5·9	3·7
Percentage of above discharged from the centre after completion of treatment and observation for ...	4·9	4·8	13·6	47·7	34·7	—	3·7	29·9	—	—	10·0	19·3
Percentage of above who, at the end of the year, were under treatment or observation for	49·1	61·9	15·4	26·1	28·2	100	50·0	37·5	—	—	30·3	49·4

* The percentages are calculated on total cases *less non venereal cases.*

WORK OF THE VISITING NURSE.

Since November, 1925, in order to induce continued attendance by discreet inquiry and persuasion, a nurse visitor has been attached to the clinics dealing with women and children. The first account of the results of this new departure appeared in last year's Annual Report. The following is a short summary of the continuance of this work during 1927:—

During the year the nurse visitor paid 437 visits to 205 patients who had ceased attendance at the various Centres for female patients. Of the 205 patients visited, 22 were not found at the address given, 4 had gone to reside outwith the City boundary, and 2 had died in the interval. The number of patients found was therefore 177, of whom 99 are now attending regularly. Of the remaining 78 patients, 9 refused to attend, 23 who had promised to attend did not appear at any of the clinics, and 46 are attending only intermittently. These 78 defaulting patients are classified as follows:—(1) Syphilis, latent infections, 54; congenital, 7; infectious, 5; total, 66; (2) gonorrhœa, infectious, 9; non-infectious, 3; total, 12.

From these two tables it will be seen that of the 78 who did not appear at clinics after visitation, 14 were suffering from one or other disease in an infectious state, and 64 in non-infectious stages.

Little difficulty has been experienced by the nurse in the visiting of any of these cases, the patients appearing to appreciate such a visit. Of the cases visited, 9 definitely refused to attend the clinics, and 6 of these had no treatment whatever. Numerous visits have been paid to each of these 9 defaulters, but without avail. The chief reason for defaulting is indifference to treatment. It is very difficult to make a patient understand that she would benefit by having treatment whilst she feels fit, or at least not any worse since she last attended. There are still many instances of mothers who attend regularly for treatment on the understanding that their husbands will also attend, but cease because the husbands do not attend.

AGE DISTRIBUTION.

The following table shows the age distribution of cases treated during the year ended 31st May, 1927. The cases are those coming for treatment for the first time during the year under review, and cases found not to be suffering from venereal diseases are excluded.

Children under 15 years of age to the number of 355 were treated for venereal diseases for the first time during the year. Disparity in the sex incidence of venereal diseases in young children was apparent, 271 of the cases being females and 84 males.

551 cases of congenital syphilis received treatment during the year.

Age Distribution.

	Syphilis		Gonorrhœa		Soft Chancre		Mixed Infections		Total	
	M	F	M	F	M	F	M	F	M	F
Under 1 year, ...	32	87	—	—	—	—	—	—	32	87
1 year and under 5 years,...	18	45	—	17	—	—	—	—	18	62
5 years ,, 15 ,, ...	34	99	—	20	—	—	—	3	34	122
15 ,, ,, 25 ,, ...	134	119	655	303	5	—	10	83	804	505
25 ,, and upwards, ...	612	312	1,450	254	33	—	54	107	2,149	673
Totals, ...	830	662	2,105	594	38	—	64	193	3,037	1,449

Five cases of syphilis showing evidence of extra-genital infection were treated during the year.

TREATMENT OF DEFAULTERS.

As a result of various conferences of Local Authorities in the West of Scotland a Bill to deal mainly with persons who suffer from venereal diseases, and who default before completing a course of treatment, was prepared. The whole question is discussed in the following memorandum:—

(1) PRESENT DIFFICULTIES IN THE ADMINISTRATION OF VENEREAL DISEASES SCHEMES;

(2) THE PROVISIONS OF THE VENEREAL DISEASE (SCOTLAND) BILL.

The scheme for the treatment of venereal disease in Glasgow has now been in operation for several years, sufficiently long to enable the general results to be assessed. Under the Venereal Diseases Regulations in force since 1916, and applied in Glasgow in 1918, the function of the Local Authority is to provide free and confidential treatment. There are now established in the City nine centres at which clinics are conducted for this purpose, two of which are municipal or *ad hoc* centres, the others being associated with the larger general or special hospitals. In addition, five clinics have been established in connection with other branches of the public health service where patients can be treated if found to be infected.

Prior to the development of this comprehensive scheme, facilities had been provided for many years at the Glasgow Royal Infirmary for both indoor and outdoor male patients, while the Lock Hospital had similarly treated female patients for 120 years. Ophthalmia neonatorum, which includes venereal affection of the eyes of newly-born children, was made notifiable in 1911, and facilities for its treatment provided. Towards the end of 1912 the Local Authority made institutional provision for the treatment of venereal disease in children under fourteen years of age, and, during the years 1913 to 1919 inclusive, 335 such patients were treated. The scheme includes full facilities for the examination of specimens, which have been available since 1913 at the municipal laboratory.

Since 1918, and especially since the war, the policy of the Corporation has been to perfect and expand the facilities for free treatment, as outlined above. The weaknesses of the present system can thus be considered in the light of considerable experience of a reasonably complete scheme of treatment evolved within the limits of the present regulations.

INCIDENCE OF THE DISEASE.

The following table shows the number of new patients treated each year since 1919 under the venereal diseases scheme at the various recognised centres :—

Year	Syphilis	Gonorrhœa	Mixed Infections and other forms of Venereal Diseases	Total Cases of Venereal Diseases	Patients found not affected with Venereal Diseases
1919, ...	2,044	2,385	1,028	5,457	267
1920, ...	2,514	2,441	1,204	6,159	406
1921, ...	2,690	2,215	1,199	6,104	448
1922, ...	2,737	1,999	918	5,654	204
1923, ...	2,327	2,092	837	5,256	387
1924, ...	2,034	2,075	788	4,897	524
1925, ...	1,682	2,153	700	4,535	499
1926, ...	1,604	2.417	467	4,488	548
1927, ...	1,505	2,749	483	4,737	617
Total, ...	19,137	20,526	7.624	47,287	3,900
Yearly average.	2,126	2,280	847	5,254	433

Thus, some 5,000 patients are treated yearly, 2,126 of whom suffer from syphilis, and 2,280 from gonorrhœa, and 847 from mixed infections, while a proportion have no evidence of venereal disease on examination. Those figures do not include patients otherwise treated by medical practitioners or in institutions.

COST OF THE SCHEME.

The expenditure incurred from year to year is shown below :—

Year	Ordinary Expenditure	Revenue	Total Ordinary Expenditure	Capital Expenditure
1918-19, ..	£6,257	—	£6,257	—
1919-20, ...	20.233	£4	20,229	—
1920-21, ...	19,406	1.710	17,696	—
1921 22, ...	40,160	819	39,341	—
1922-23, ..	29,103	2,779	26,323	—
1923-24, ...	27,946	397	27,549	—
1924-25, ...	22,601	4,245	18,356	—
1925-26, ...	25,338	1,651	23,687	£394
1926-27, ...	23,587	1,475	22,112	9,200
	£214.630	£13 080	£201,550	£9,594

It may be pointed out, in explanation, that the revenue shown in the table is from those outside Local Authorities who depend on Glasgow for the treatment of their patients. It does not include grants-in-aid by the Government, which amount to 75 per cent. of the net cost incurred. The capital expenditure shown against the year 1926-27 is in respect of the new and up-to-date municipal centre recently erected and opened at Black Street.

Dissatisfaction with Present Position.

Among the larger Local Authorities in Scotland there has been a growing dissatisfaction with the results achieved. In spite of widespread and persistent propaganda, the proportion of those who cease or default from treatment is increasing. Many Local Authorities feel that the measures they at present operate in dealing with those contagious diseases are to a considerable extent rendered abortive, and that the weaknesses inherent in the purely voluntary character of the existing schemes are incapable of remedy without further powers. In 1923 a conference of Scottish Local Authorities held in Glasgow resolved that the present law and machinery were inadequate to secure the proper control and treatment of venereal diseases. In 1924 the Corporation of Glasgow approved of a motion that " full benefit is not derived from the expenditure on the treatment of venereal diseases under existing conditions, and that the time has arrived for the introduction of a system of compulsory notification." In March, 1925, at a meeting of representatives of the adjacent Counties of Lanark, Renfrew, and Dunbarton and the burghs contained therein, it was resolved to request the Scottish Board of Health to make additional regulations under Section 78 of the Public Health (Scotland) Act, 1897, " with a view to securing the effective treatment of all persons affected with venereal diseases, and for preventing the spread of these diseases."

A draft Bill was the outcome of these resolutions, and particularly of further conferences held in Glasgow on 14th December, 1927, and on 22nd March, 1928, of representatives of the following Local Authorities :—the Corporations of Glasgow and Greenock; the Town Councils of Clydebank, Johnstone, Port-Glasgow, Paisley, Renfrew, and Barrhead; and the Joint-Committees of Ayrshire, Dunbartonshire Lanarkshire, and Stirlingshire. The Bill, which had been prepared by a sub-committee of these Authorities, was approved as amended at the final conference on 22nd March.

The Corporation of Glasgow, at a meeting held on 12th April, also approved of the Bill.

Defects of Existing Scheme.

The clinics are entirely free, and the relationship between doctor and patient entirely confidential. Every endeavour is made to persuade patients to remain under treatment until they are cured, or, at least, no longer capable of transmitting the infection. The crux of the matter, however, is that patients in considerable and increasing numbers cease treatment prematurely as soon as their more clamant symptoms have been relieved. Provided patients remain under treatment as long as they are capable of conveying infection to others, the Bill does not in any way interfere with the free and confidential relationship between doctor and patient. *The Bill does seek, however, to secure the compulsory notification of defaulters and to throw on them the responsibility of continuing under treatment.*

Extent of Defaulting under the Scheme.

The figures showing the number of patients who are treated each year indicate that considerable success has attended the establishment of the various clinics. While the facilities afforded for the specialist treatment provided have been widely taken advantage of, the prevalence of premature cessation of treatment is a disquieting factor.

The following table shows, for each sex, the numbers who have prematurely ceased attendance, *i.e.*, before completing a course of treatment, between 1st June, 1922, and 31st May, 1927, a period of six years :—

	Syphilis—Male Patients			Syphilis—Female Patients		
Year	Total Cases under Treatment during year	Defaulted before completing Course of Treatment	Percentage of Defaulters to Total Number treated	Total Cases under Treatment during year	Defaulted before completing Course of Treatment	Percentage of Defaulters to Total Number treated
1922, ...	2,789	229	8·2	1,935	180	9·3
1923, ...	2,860	493	17·2	2,130	367	17·2
1924, ...	2,329	528	22·7	2,114	357	16·9
1925, ...	2,351	462	19·7	2,048	363	17·7
1926, ..	2,273	653	28·7	1,845	241	13·1
1927, ...	1,874	643	34·3	1,789	163	9·1

One or two important conclusions may be drawn from these figures. There is evidence of a decline in the number of male syphilitic patients presenting themselves for treatment. But coincidently with this decline, it is apparent that the number of those patients who cease treatment in the earlier stages of the infection is definitely tending to increase. On the other hand, the diminution in the number of female patients attending the clinics is not so marked, but it is important to observe that the proportion of defaulters among women is much lower than among men, and is tending to diminish rather than to increase.

Taking next gonorrhœa, the following table gives similar information for the same years :—

	Gonorrhœa—Male Patients			Gonorrhœa—Female Patients		
Year	Total Cases under Treatment during year	Defaulted before completing Course of Treatment	Percentage of Defaulters to Total Number treated	Total Cases under Treatment during year	Defaulted before completing Course of Treatment	Percentage of Defaulters to Total Number treated
1922, ...	2,340	264	11·3	734	29	4·0
1923, ...	2,275	374	16·4	654	72	11·0
1924, ...	2,238	350	15·6	644	104	16·1
1925, ...	2,577	681	26·4	621	121	19·5
1926, ...	2,482	920	37·1	643	53	8·2
1927, ...	2,518	1,597	68·4	789	81	10·3

This table again shows a considerable and increasing proportion of defaulters from treatment among the male patients. On the other hand, the figure for defaulters among women who attend the clinics is much better. Practically all those patients shown in this table as defaulters may be regarded as being still in an infective condition.

Taking the clinics as a whole and all patients together over the year ending 31st May, 1927, 50 per cent. of the male patients ceased attendance before the completion of a course of treatment—a figure representing 643 syphilitic patients, 1,597 cases of gonorrhœa, and 34 mixed infections, out of a total of 4,547 patients who received treatment. On the other hand, the defaulting figure for females in respect of the completion of a first course is only 10 per cent., comprising 163 cases of syphilis, 81 cases of gonorrhœa, and 48 mixed infections, out of a total of 2,920 patients who attended for treatment. These figures would appear to bear the inference that powers to ensure continuity of treatment would react much less harshly upon female patients suffering from frankly communicable disease.

It is recognised that many patients may have a reasonable excuse for discontinuing treatment, but, after making every allowance, an unduly high proportion do so while still suffering from the disease in a communicable form. This arises from the fact that patients accept their own standards, as judged by cessation of the more painful and obvious symptoms associated with the earlier stages of these infections. It is with regard to this class of patient that grave dissatisfaction has been expressed by the specialists in charge of the actual treatment of the patients, ever since the venereal diseases scheme came into operation.

A special survey has recently been made of 1,775 defaulters at two principal male centres, which showed that, out of 372 male syphilitic patients defaulting, 27 were actively infectious, and a further 200 had positive Wassermann blood reactions; and that, out of 1,403 cases of gonorrhœa defaulting, 795 were definitely infectious.

There is a very strong impression, supported by certain facts, that a large proportion of those who default in the earlier stages do so owing to carelessness or indifference, and that they belong to the class of libertines who find the Centres convenient for their purpose. Of the 1,775 defaulters referred to above, 581 were suffering from their second or subsequent attack. Further, in the course of a year's experience at the Broomielaw Municipal Clinic, it was ascertained that more than half of the total number of cases treated (both syphilis and gonorrhœa) had formerly undergone a course of treatment, followed by cessation of symptoms, and had returned, after an interval, for treatment of fresh symptoms, which they attributed to re-exposure to infection.

Results of Defaulting.

One of the difficulties which interfere with the proper treatment of both syphilis and gonorhœa is that the more clamant symptoms and the more obvious signs often disappear early during the treatment. At this stage the disease is not cured, and the patients are still capable of transmitting the infection to others or to their offspring. All patients who attend the clinics are warned of the possible grave consequences to themselves and others of neglect to continue under treatment. In the case of syphilis, neglect of treatment may result in disease of the heart and blood vessels, which may cripple the individual and finally destroy life, mental affliction (including insanity), and in particular the transmission of the disease from parent to child. Gonorrhœa is responsible for a large amount of urinary disease, rheumatic conditions, and involvement of the reproductive organs in both sexes.

The transmission of syphilitic infection from parent to child may give rise to immediate or remote consequences before or after birth. Besides causing miscarriages and still-births, syphilis is one of the most common causes of blindness, deafness, and mental defect in those children who survive. It has been proved that the application of appropriate treatment to the syphilitic mother in the early months of pregnancy will prevent the transmission of the disease to the child.

METHODS ADOPTED TO PREVENT DEFAULTING.

A great deal of emphasis has been laid upon education and the spread of knowledge of venereal diseases and their serious consequences as being likely to evoke a due sense of responsibility. On the instructional side numerous addresses and demonstrations have been given from year to year to largely attended and appreciative mixed audiences. Full facilities for free and confidential treatment have been provided, as already explained, at hours suited to the convenience of patients. The clinics are staffed by specialists in the various branches of these affections. Facilities are provided for the treatment of women and children as an integral part of the Maternity and Child Welfare Scheme, as well as in the outdoor department of the Maternity Hospital.

Further, since November, 1925, in order to induce continued attendance by discreet inquiry and persuasion, a nurse-visitor has been attached to the group of clinics dealing with women and children. This system of following up to the patients' homes has had a modified success. Of 540 defaulting patients visited, 250 resumed regular attendance; among the 290 who resumed fitfully or not at all, 191 were mothers with latent syphilis, most of whom had already borne syphilitic children, 31 had active syphilis, while 60 were suffering from gonorrhœa; and although a few had received some treatment all were still infective. There has never been any difficulty about gaining access to the patient; the visits, as well as the discussion which ensues, are welcomed readily enough. While this procedure has had a degree of success which justifies its continuance, the extent of its failure is also very considerable. This experience appears to represent the limit to which administrative action can be carried under present conditions.

The principal causes of defaulting are indifference and carelessness, associated with a lack of clamant symptoms, and it is the opinion of those who come into closest contact with patients that, in practice, a strong hint that continuance of treatment is expected, and would be enforced, would be a quite sufficient incentive in the great majority of cases. If this view of the mentality of the average defaulter is correct, it follows that the introduction of powers of compulsion would not cause the tremendous upheaval which some critics fear.

There is, of course, extreme divergence of view as to the expediency of endowing Local Authorities with any powers savouring of compulsion towards those who, having contracted venereal disease, show little sense of responsibility. It is argued that this defect will be gradually eliminated in proportion as existing measures are continued and perfected, and that a sense of duty will evolve with the spread of knowledge and social propaganda. But the difficulties encountered in the present system of complete freedom in a matter gravely affecting the public health do not show any tendency to diminish. There is, indeed, ground for fearing, as the increasing number of defaulters suggests, that there is growing up a too easy acceptance of the facilities provided, and that a completely free and unfettered règime is tending to breed a casual outlook on venereal disease.

The public are not unfamiliar with restrictive regulations, and, on the question of compulsory powers in respect of venereal disease, it is a relevant consideration that local government in this country has reached a stage when it can be trusted to use such powers judiciously and temperately, accustomed as it is to administer codes governing infectious disease generally with common sense and discrimination and with the approval of the public.

The eighth annual report of the Scottish Board of Health for 1926, after discussing the question of defaulting patients, goes on to say, "It is not surprising, therefore, that among Local Authorities who see so imperfectly utilised the treatment facilities for which they in the first instance are financially responsible, among clinicians who feel that their time and skill are largely wasted, and among social workers and others whose duties bring them into daily contact with children maimed through the uncured disease of their parents, there is a growing demand for compulsory measures to secure submission to treatent by all persons infected with a venereal disease, and continuance under treatent until discharge."

The Royal Commission on Venereal Diseases stated that "the situation may be modified when the facilities have been in operation for some time and the question of notification should be again considered." The Trevethin Committee, while concluding against compulsory notification, added, "it may be well that measures for dealing with defaulters might be justified in certain areas." The view here put forward is that this justification now exists in Glasgow and the surrounding district among those Authorities which have agreed to support the Bill.

Provisions of the Venereal Disease (Scotland) Bill.

The object of this Bill is to assist the prevention of the venereal diseases by securing the better treatment of adults suffering from these diseases in a communicable form and the better treatment of children. For the reasons stated, the Bill now being promoted asks quite frankly for further powers of a compulsory nature, and applies to three classes of patient :—

(1) Persons who contract these affections are made responsible for continuing under treatment by a registered medical practitioner as long as they are deemed to be in an infective condition.

For the purposes of the Bill, venereal disease is defined as, and the powers sought are restricted to, syphilis, gonorrhœa, or soft chancre *in a communicable form.*

The Bill proceeds upon the principle that it is the duty of infected persons, as above, to place themselves under appropriate treatment as soon as the nature of the affection is recognised or diagnosed, and to continue under treatment by a medical practitioner until they are informed by him that no further treatment is necessary.

The persons affected by these clauses are those who cease treatment, or default, while still in an infective condition and likely to transmit the disease to others. As long as they remain voluntarily under the care of a medical practitioner, nothing further is required, and the bond of secrecy continues. In the event of default from treatment, however, a further clause comes into operation. This clause provides for notification to the Medical Officer of Health of defaulters by name and address. The medical practitioner whom the patient has ceased to attend, unless he is satisfied that the patient is being treated by some other medical practitioner, becomes responsible for notifying the case.

Under another clause the Medical Officer of Health is empowered to take action, in the case of wilful default, by requesting the affected person in writing to resume treatment until he is informed that no further treatment is necessary. In the event of failure to comply, the patient is liable to prosecution, or to be removed to hospital on the order of a sheriff, magistrate, or justice.

It will be observed that these compulsory clauses apply to persons whose disease is in a communicable form, and not to the late non-infective stages. Patients in the former condition are expected to remain under treatment until a medical man, whom they are attending, *informs* them that they are no longer infective. They are not asked to produce a certificate to this effect. They do not become defaulters under the Act, and liable to be notified as such, if they change their medical attendant, provided the medical practitioner whom they have ceased to attend is satisfied that they are continuing under treatment.

The clause providing for prosecution or removal to hospital gives powers wider than those required for ensuring the continued treatment of defaulters. It also strikes at the person who is known with reasonable certainty to be a source of infection and who is neglecting to undergo treatment by a medical practitioner. In this case, the Medical Officer of Health may, if he has reason to believe that any person is affected and is not being treated, require him, in writing, to submit himself to treatment or to produce medical evidence that he is not suffering from venereal disease.

(2) The Bill also embraces children suffering from congenital syphilis and newly-born children affected with ophthalmia due to maternal gonorrhœa. The definition of venereal disease includes congenital syphilis in a child not exceeding 14 years of age, and the compulsory clauses of the Bill make it incumbent on those having care or charge of such children to cause them to be treated by a medical practitioner. The provisions as to notification, &c., as explained, apply also to this group of patients. These measures are intended to secure for children appropriate treatment and to prevent the serious disabilities which are apt to follow neglect or premature discontinuance of treatment.

(3) The parents of a syphilitic child also come within the scope of the Bill. A clause enacts that, where the medical practitioner has reason to believe that the parent or parents in attendance on a child found to be syphilitic are themselves suffering from syphilis, they must be so informed and must submit themselves for examination, and, if need be, treatment. This provision is intended to prevent by appropriate treatment, as far as possible, the transmission of syphilis to future children, which is commonly the result of untreated maternal infection. The medical practitioner may, however, withhold disclosure of the fact that he has this belief, or even that the child is infected, if he thinks that the state of health of the parent would justify this course.

While this proviso may have the effect of weakening certain of the earlier clauses, it is obvious that persons infected with venereal disease, or the parents of children infected with syphilis or ophthalmia due to gonococcus, should be made aware of the nature of the disease before they can be expected to comply with the provisions of the Bill. The medical practitioner is given a discretion as to disclosure of the facts in words which allow of considerable latitude in their interpretation and application to individual cases. He might, indeed, argue, with some show of reason, that the shock of disclosure would be sufficient justification in withholding information under these clauses. It has been considered necessary, however, to introduce a proviso of this kind to cover instances where, in the opinion of the doctor, disclosure might have a harmful effect.

It is necessary in penal provisions of this kind to allow for the right of appeal by aggrieved persons. Provision is therefore made for the appointment of a medical referee by the Scottish Board of Health, to whom aggrieved persons may be referred, and whose opinion, as to diagnosis and necessity for continued treatment, shall be final.

A. S. M. MACGREGOR.

Public Health Department,
Sanitary Chambers,
Glasgow, 14th April, 1928.

SECTION VII

HOSPITALS AND DISINFECTING STATIONS.

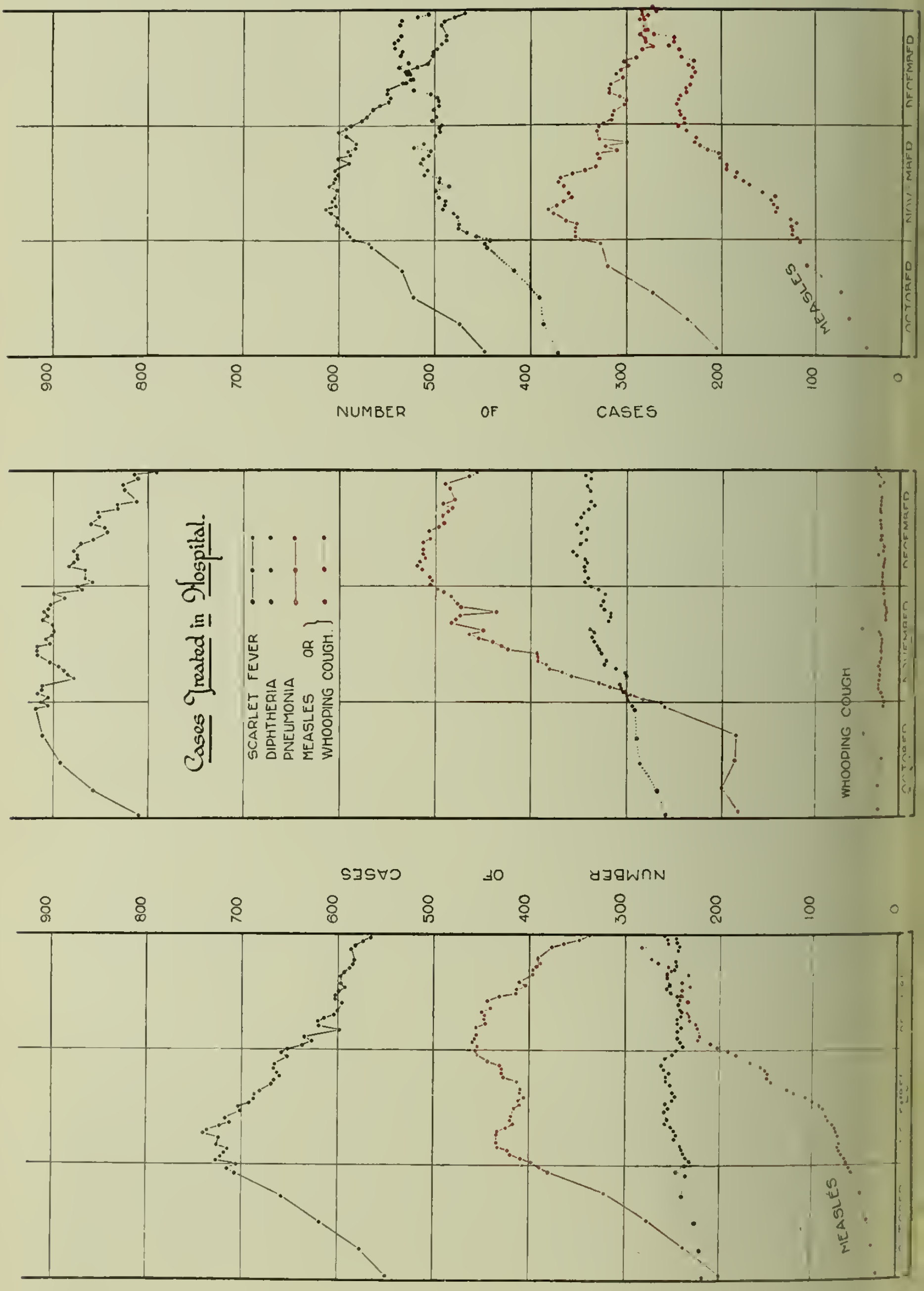
Great difficulty was again experienced during the year in adapting the hospital accommodation to the demand on beds, in spite of the adoption of various expedients. It has now become necessary to provide for acute infectious disease at the expense of tuberculosis, and one of the phthisis wards at Knightswood Hospital was evacuated early in the winter. This year, with the approval of the Committee on Health, two of the country homes (Mount Blow and Scotstoun) were diverted from their proper function and devoted to the reception of young children from 1 to 5 years, sent to them from the infectious disease hospitals to complete their convalescence. Those selected for transference were children convalescent from pneumonia and measles, who would otherwise have had to be retained for a period in the hospitals before discharge. It was found that convalescence, especially of weakly children with minor complications, proceeded more rapidly in the country homes, and this proceeding was popular with parents. This arrangement had the effect of adding 50 beds to the hospital accommodation during the period of pressure. The number of children so transferred was 135 up to 31st December.

Another factor which sensibly relieved the situation was the co-operation of the officials of the Glasgow Parish Council, who very readily consented to admit at once and without formality patients with acute pneumonia during times of pressure, in so far as their accommodation would permit. The assistance rendered was invaluable, and in addition to the appreciation of the Committee on Health, to whom this arrangement was reported, I should like to add my own gratification at this further instance of close co-operation.

In spite of all these arrangements, it was found impossible to avoid a " waiting list " for acute pneumonia and measles over a period of about six weeks, a list which occasionally held as many as 20 to 30 names. The patients on this list, mostly children, were visited daily by nurses specially detailed, and the most urgent cases given priority of admission, based on their reports. So popular has become the provision for hospital treatment of pneumonia and the severer types of measles that the creation of waiting lists gives rise to dissatisfaction. Under the circumstances, it was inevitable. The position would have been much more clamant had not the earlier incidence of pneumonia and of measles caused the demand to be considerably less concentrated than usual.

As regards hospital provision generally, accommodation for pneumonia, measles, and whooping-cough depends on the provision required to be set aside for the other infections, chiefly scarlet fever and diphtheria, which are the first consideration. From this point of view, the experience of the last two years may be contrasted. During the winter of 1926 there was a high prevalence of scarlet fever. The number of such patients in hospital reached its maximum, 918, on 29th October of that year, and remained high thereafter. The demand on beds for pneumonia in 1926 attained its highest on 6th December, when 525 patients were under treatment. During 1927, on the other hand, scarlet fever reached its maximum with 614 patients, on 8th November, but there was an unprecedentedly high demand for the treatment of diphtheria, which reached a high prevalence in the City, so that on 20th December there were 541 cases in hospital. The maximum accommodation for pneumonia which it was thus possible to provide amounted to 386 beds on 7th November, *i.e.*, about 140 less than the maximum of the previous year. The epidemic of measles further added to the difficulties of hospital administration. The demands on hospital accommodation are further illustrated by the charts on page 162.

There are several circumstances which react upon hospital provision for acute pneumonia. It would appear to be the policy of the general hospitals to restrict admission of such patients. No doubt they feel under a necessity to do so. Ever since the Local Authority hospitals opened their wards to the treatment of pneumonia, the demand has steadily grown, and during the winter months has become difficult to meet at a time when it is most insistent. Institutional accommodation for pneumonia has become a recognised, popular, and desirable provision. When any delay in admission occurs, as when a waiting list has to be established, dissatisfaction is at once aroused. A further measure of co-operation with the general hospitals might sensibly relieve the situation.


Cases Treated in Hospital.
SCARLET FEVER
DIPHTHERIA
PNEUMONIA
MEASLES OR WHOOPING COUGH.
NUMBER OF CASES
0
100
200
300
400
500
600
700
800
900
OCTOBER
NOVEMBER
DECEMBER
MEASLES
WHOOPING COUGH

A considerable number of patients, particularly children, are sent to hospital, and on admission are found not to be suffering from pneumonia, their symptoms being slight fever, cough with mild catarrh, or even none at all, followed by rapid convalescence. They occupy hospital beds to the exclusion of more urgent cases and embarrass the accommodation. Another difficulty is the ease with which wards for the treatment of pneumonia in young children become cross infected during an epidemic of measles, a feature which was much in evidence last year, and which seriously reduced the available bed accommodation.

In the Health Bulletin issued in October of last year the attention of medical practitioners was specially directed to the necessity for careful utilisation of hospital beds in the following terms:—

"As regards infectious diseases, the most important feature is the early high incidence of measles and pneumonia. The winter prevalence of both these affections has commenced about six weeks sooner than has been customary in past years. This probably indicates that the incidence of these diseases will reach considerable dimensions during the next few months, and they have already caused a serious strain upon the hospital resources.

"It is imperative, therefore, that medical practitioners should exercise the utmost discrimination before requesting the admission to hospital of individual patients. Requests for the removal of patients suffering merely from bronchitis are still very numerous, and practitioners are reminded that the accommodation is provided only for acute pneumonia. With regard to measles, the available accommodation is limited, and in arranging for admissions preference must be given to children suffering from severe complications.

"In order to avoid cross infection of pneumonia wards with measles, it will be of great advantage to the Department if practitioners will ascertain and state, when requesting removal, whether the patient has been definitely in contact with a case of measles. The hospital accommodation available for measles can only provide for a small proportion of the patients, and it will be possible to admit to hospital only the most severe complicated cases."

Scarlet Fever.—In order further to assist in the conservation of hospital accommodation, uncomplicated cases of scarlet fever are now being discharged from hospital between the fourth and fifth week of residence. Patients may be dismissed before desquamation is absolutely complete, the accepted view now being that this condition is non-infectious. Further, some relaxations in the conditions regarded as suitable for the home treatment of scarlet fever have been made, although it has been found impossible to permit more than a comparatively small proportion to be nursed at home.

Diphtheria. — The type of diphtheria that prevailed was mostly mild, although severe cases followed by paralysis occurred with some frequency. Medical practitioners were requested not to order the removal to hospital of patients bacteriologically positive but with no clinical signs or symptoms without consultation with the Public Health Department. In most instances bacteriological cases of this kind can be kept under observation until the organism has been tested for virulence. The coincidence of a high prevalence of diphtheria with an epidemic of measles led to a good deal of confusion in diagnosis. The croupy cough, common at the onset of measles, was sometimes mistaken for laryngeal diphtheria, and was sent to hospital as such, causing cross infection of the diphtheria wards.

The admission of large numbers of young children suffering from various affections, particularly diseases involving the lungs, has led to a considerable degree of cross infection of wards, especially with measles, and the necessity for a more ample provision of observation bed accommodation has become evident. Plans for a new two-storey observation ward at Belvidere have accordingly been approved by the Corporation. When this ward has been completed there will be two observation wards at each of the three larger hospitals—Ruchill, Belvidere, and Knightswood—but it may be necessary in the future to adapt other wards in each of the two former hospitals for observation purposes.

Blawarthill Hospital.—An interest to the extent of about 12 per cent. of the accommodation of Blawarthill Hospital, where there are 200 beds, was acquired by the City with the extension of the City boundary in May, 1926.

Knightswood Hospital.—At Knightswood Hospital accommodation, which had been originally used for the isolation of contacts, was converted into four houses for the use of members of the male staff.

Robroyston Tuberculosis Hospital.—The area of the grounds at this hospital was increased by 102·45 acres, transferred from the Cleansing Department's Estate in order to make the plan of the ground more regular.

The hospital bed accommodation for infectious diseases is shown in Table XX in the Appendix, the second portion of which indicates the number of beds available in Corporation institutions and sanatoria, and the number of beds occupied by tuberculosis patients in other hospitals and sanatoria for which payment is made. Excluding tuberculosis, 10,545 cases were admitted to the hospital during 1927.

Owing to the earlier publication of the Annual Report this year, it has not been possible to include the usual information with regard to expenditure in Table XXI, as the financial year does not close until 31st May.

ANNUAL REPORTS OF THE HOSPITALS.

The Annual Reports submitted by the Physician-Superintendents of the hospitals and sanatoria form Part II of this report. In each case tables are appended, giving information as to the numbers admitted and dismissed, &c.

The use of scarlet fever serum has been continued in a larger number of cases. Reference is made to this in the Belvidere, Ruchill, and Knightswood reports.

EAR, THROAT, AND NOSE DISEASES.

In Section IV on Infectious Diseases in connection with the treatment of cases of scarlet fever and diphtheria will be found note by the aurists appointed to the Corporation hospitals. The following statement summarises the visits made to hospitals by the two specialists. Further details will be found in the various hospital reports:—

Record of Attendances and Operations by Aurists
at Corporation Hospitals for the Year 1927.

	Patients.						Staff.		
	New Cases.		Old Cases.		Operations.		New Cases.	Old Cases.	Operations.
	−5	+5	−5	+5	−5	+5			
Belvidere, -	146	140	79	103	32	42	3	4	2
Shieldhall, -	17	30	70	29	9	7	2	9	2
Robroyston, -	4	9	—	1	2	12	1	—	—
Ruchill, -	77	179	87	211	50	128	15	45	16
Knightswood,	34	61	7	37	8	15	2	—	1
Total, .	278	419	243	381	101	204	23	58	21
Year 1926,	400	306	301	236	80	81	29	31	10

RECEPTION HOUSES.

The accommodation at Baird Street Reception House was utilised wholly during the year for the treatment of cases of ophthalmia neonatorum and artificial light therapy of tuberculosis. The former is dealt with in Section III of report, and the latter under " Tuberculosis."

The rear annexe of South York Street Reception House continued to be utilised for the isolation of young children prior to admission to the various country homes. Cases of scabies to the number of 41, and 120 verminous persons, most of whom are newsboys, or boys who are being sent under some emigration scheme to the colonies, were also treated.

CONTACTS, &C., ADMITTED TO SOUTH YORK STREET RECEPTION HOUSE.

	1926	1927		
	Total	Adults	Children	Total.
Diphtheria (+) for observation, ...	—	1	8	9
Smallpox Contacts, ...	—	13	—	13
Typhus Fever ,, ...	33	—	—	—
Enteric ,, ,, ...	17	3	—	3
Scarlet ,, ,, ...	6	1	3	4
Scarlet Fever and Diphtheria Contacts, ...	—	—	2	2
Whooping-Cough Contacts,	3	1	—	1
Measles Contacts, ...	1	—	—	—
Dermatitis, Eczema, Vaccinia, and Erythema, ...	—	—	4	4
Impetigo, ...	16	1	28	29
Verminous Persons treated,	153	69	51	120
Scabies.	16	12	29	41
Mumps, ...	1	—	—	—
For Observation before admission to Country Homes, ...	181	—	188	188
From Flooded Houses, ...	—	3	17	20
Total, ...	427	104	330	434

DISINFECTING STATIONS.

The following tables summarises the washings and disinfections carried out at Ruchill and Belvidere Disinfecting Stations during the year 1927 :—

	Belvidere	Ruchill	Total
Number of washings, ...	8,505	7,818	16,323
Average number per day, ...	27·8	25·4	53·2
Articles washed and disinfected, ...	304,156	344,360	648,516
Average number of articles per washing,	35·8	44·0	39·7
Fuel consumed, ... tons	664	804	1,468
Fuel used per article, ... lbs.	4·89	5·23	5·07
Soap and powder used per article, ... ozs.	·35	·30	·32
Disinfectant do. ... ozs.	·42	·48	·45

Number of Washings, Articles Disinfected, &c., for Years 1921-27 inclusive.

	Washings	Articles	Sprayings	Whitewashings
1921, ...	18,060	655,867	19,196	21
1922, ...	14,837	533,450	9,418	21
1923, ...	14,423	526,285	8,008	2
1924, ...	14,690	510,275	8,405	3
1925, ...	14,408	530,777	8,473	2
1926, ...	15,992	620,038	9,806	—
1927, ...	16,323	648,516	10,495	2

Books Disinfected, 1,781

Disinfection of Straw Packings.—In order to comply with regulations issued by various Governments, arrangements were made for the disinfection of straw packings, &c., in the chambers of the disinfecting stations of the Local Authority. This was done overnight at the Ruchill and Belvidere Disinfecting Stations. The packing mostly consisted of bales of straw envelopes. These were placed on racks, and ten fluid ounces of formaldehyde for each thousand cubic feet of space was sprayed into and over the bundles placed loosely in the chamber, which was closed overnight for not less than eight hours, the temperature being maintained at not less than 65° F.

The cost of carriage to and from the disinfecting stations formed a heavy charge in relation to the value of the materials, and this led to several firms making chambers themselves. Arrangements for disinfection being satisfactory, the firms now intimate when a disinfection is to be carried out, so that an inspector of the department may call to see that the procedure is followed, in order that certificates to accompany the consignments may be issued by the department. These arrangements have worked satisfactorily.

Fumigation of Vessels.—Most of the fumigations of vessels for disinfestation of rats are done by this department. Information regarding this matter is given in the report of the work of the Port Local Authority which forms Section IX.

DISINFECTION AND CERTIFICATION OF SECOND-HAND CLOTHING, &c., EXPORTED TO THE IRISH FREE STATE.

On 29th July, the Government of the Irish Free State issued regulations requiring that second-hand clothing, used bedding, and rags imported into that country should be accompanied by a certificate of the Medical Officer of Health at the place of consignment, that they had been efficiently disinfected, or alternatively that such articles should be imported through the ports of Dublin, Waterford, Cork, or Galway, where disinfection would be carried out free of charge by the local sanitary authorities.

On inquiry it was found that about thirty firms in Glasgow traded in second-hand clothing with the Irish Free State, and arrangements were made to carry out the disinfection of consignments sent by them and to furnish the necessary certificates.

From 1st September, 1927, when the regulations became operative. to the end of the year, 708 certificates were issued. A small charge is made to cover the time of the disinfector and materials, with a nominal charge for certification.

SECTION VIII.

OFFENSIVE TRADES.

The number of offensive businesses on the register at 31st December, 1927, remains the same as at the end of the previous year. There are 72 in all—44 of which are situated in the Eastern division, 14 in the North, 3 in the Central, 1 in the South-East, and 10 in the South-West. The following shows the nature of these businesses:—

Bone Boilers, ...	8
Tallow Melters, ...	20
Manure Manufacturers, ...	8
Gut Cleaners, ...	4
Hide and Skin Factors, ...	8
Soap Boilers, ...	11
Tanners, ...	8
Glue and Size Manufacturers, ...	3
Horse Slaughterer, ...	1
Knacker, ...	1
	72

During 1927 several applications were made for registration or renewal of registration of premises for carrying on offensive trades.

Horse Slaughterers and Knackers.—The annual renewal of licences, as required by Statute, for the carrying on of the businesses of slaughterers of horses and knackers, were granted in respect of two establishments in the Northern district of the City.

Skin and Hide Factors.—During March inquiry was made on behalf of a firm carrying on this business, as to whether application would require to be made in connection with the re-building of their premises, which involved an extension of only 13 square yards. The view was expressed that this was not required within the meaning of Section 32 of the Public Health (Scotland) Act, 1897.

Bone Boiling, Tallow Melting, and Manure Manufacturing.—On 9th August application was made for a licence to carry on these businesses at premises in Vinegarhill, but was refused by the Committee on Health.

SECTION IX.

GLASGOW PORT LOCAL AUTHORITY.
BOARDING STATION, GREENOCK.

At the Boarding Station at Greenock vessels are boarded by means of a motor launch, which is hired on a yearly contract.

For many years it has been the practice of the officials of the Customs and of the Port Local Authority to carry out their respective duties in close co-operation, using the same launch for boarding purposes, an arrangement which has worked extremely well and harmoniously.

The constitution of the Port Local Authority is laid down in the Order of the Local Government Board for Scotland constituting the Local Authority of the Burgh of Glasgow, in terms of the Public Health (Scotland) Act, 1897, the Port Local Authority of the Port of Glasgow. Article III is as follows :—

> The jurisdiction of the said Port Local Authority shall, subject to the exceptions hereinafter in this article mentioned, extend to the whole of the said Port of Glasgow as defined by the Treasury Warrant, dated 19th April, 1859, and to the place or places for the time being appointed as the Customs Boarding Station or Stations for the said port, and the place for the time being appointed for the mooring or anchoring of ships for the said port under any regulation for the prevention of the spread of diseases under Part 4 of the Public Health (Scotland) Act, 1897, and to all waters, harbours, and strands belonging to the said port, &c.

The duties of a Port Local Authority are laid down in the Public Health (Scotland) Act, 1897, and in the Public Health Port Administration (Infectious Diseases) Regulations (Scotland), 1921, made by the Scottish Board of Health.

Summary of Work during the Year 1927.—1,676 vessels, including 1 sailing vessel, passed the boarding station bound for the Port of Glasgow. Of these 509 had come from, or called at ports infected under the Cholera Order; 274 direct or with foreign inward cargo on board, and 235 light or with outward cargo on board. There were also 719 vessels from Irish Free State. Of these 624 were boarded at Greenock. The total tonnage of the 1,676 vessels was 4,499,981 tons, as compared with 1,606 ships and 4,712,234 tons during 1926.

NUMBER OF SHIPS ARRIVING FROM FOREIGN AND IRISH FREE STATE PORTS DURING THE YEAR 1927.

MONTH.	FROM INFECTED PORTS.															Arrivals from Irish Free State.
	Class A Direct with Foreign Inward Cargo.			Class B Light, or with Outward Cargo.			Total of A and B.			From Non-Infected Ports, with or without Cargo.			Total from Foreign Ports.			
	Ships.	Crews.	Pass.	Ships.	Crews.	Pass.	Ships.	Crews.	Pass.	Ships.	Crews.	Pass.	Ships.	Crews.	Pass.	Ships.
January, - - -	27	1,977	2	19	1,041	2	46	3,018	4	89	3,626	316	135	6,644	320	43
February, - -	15	921	...	13	668	...	28	1,589	...	82	3,123	203	110	4,712	203	45
March, - - -	28	1,870	...	20	1,519	...	48	3,389	...	116	4,497	354	164	7,886	354	61
April, - - -	19	1,322	...	21	1,379	...	40	2,701	...	100	4,768	738	140	7,469	738	52
May, - - -	25	2,050	...	20	1,652	59	45	3,702	59	105	5,101	1,947	150	8,803	2,006	60
June, - - -	23	1,798	3	21	1,219	2	44	3,017	5	91	4,830	3,278	135	7,847	3,283	55
July, - - -	26	1,662	11	21	1,217	56	47	2,879	67	95	5,318	4,553	142	8,197	4,620	79
August, - - -	17	1,301	...	15	816	...	32	2,117	...	101	5,572	2,193	133	7,689	2,193	60
September, - -	12	917	...	17	1,020	...	29	1,937	...	108	6,030	1,254	137	7,967	1,254	61
October, - - -	28	1,951	1	31	1,729	...	59	3,680	1	97	5,230	1,271	156	8,910	1,272	76
November, - -	20	1,151	...	14	913	...	34	2,064	...	111	5,426	712	145	7,490	712	69
December, - -	34	2,880	...	23	1,185	...	57	4,065	...	72	3,031	1,096	129	7,096	1,096	58
Totals, - -	274	19,800	17	235	14,358	119	509	34,158	136	1,167	56,552	17,915	1,676	90,710	18,051	719
1926, - - -	230	15,825	3	189	12,512	5	419	28,337	8	1,187	57,680	17,495	1,606	86,017	17,503	448

The following table shows the number and nationality of overseas vessels, with their crews, arriving at the Port of Glasgow during the year 1927 as compared with 1925 and 1926:—

Nationality	Number of Vessels			Number of Crews		
	1925	1926	1927	1925	1926	1927
American, ...	55	56	51	2,271	2,298	2,068
*Argentine, ...	—	1	—	—	—	—
Belgian, ...	—	3	—	—	108	—
British, ...	1,352	1,276	1,334	81,937	76,571	80,693
Danish, ...	27	31	12	506	651	233
Danziger, ...	1	1	—	19	14	—
Dutch, ...	9	23	23	164	798	787
Finnish, ...	1	2	8	22	47	165
French, ...	23	8	9	499	175	235
German, ...	37	26	18	523	461	282
Greek, ...	8	10	3	213	293	78
Italian, ...	10	11	6	278	358	175
Japanese, ...	14	12	16	1,026	776	1,124
Jugo-Slavian, ...	—	8	12	—	257	424
Latvian	2	1	—	41	20	—
Norwegian, ...	115	83	98	2,300	1,706	2,024
Roumanian, ...	—	—	1	—	—	33
Russian, ...	—	3	4	—	100	136
Spanish, ...	69	40	69	1,895	1,168	1,958
Swedish, ...	11	10	9	211	193	173
Peruvian, ...	1	1	—	32	23	—
Portuguese, ...	—	—	3	—	—	122
Total, ...	1,735	1,606	1,676	91,937	86,017	90,710

*Argentine ship had British crew, which is therefore included in British.

INFECTIOUS DISEASES.

The following table shows the number and nature of the cases of disease met with in the year 1927. The first column gives the total number of cases. Column 2 shows that 122 cases were dealt with at other ports during the voyage. Particulars of these are not always available, but, where necessary, disinfection was carried out on the arrival of the ship at Glasgow. The other columns show how the 188 cases found on arrival were dealt with. 54 cases were removed to hospital in Glasgow, and 134 cases were permitted to go home. Fourteen deaths were recorded during the year.

TABLE SHOWING DISEASES AND NUMBER OF CASES DURING THE YEAR 1927.

DISEASE.	Total Number of Cases during Voyage.	Cases Dealt with in other Ports.	Cases Found on Arrival.	Cases Sent to Hospital.	Cases Sent Home.	Deaths
Cholera, ...	1	1	—	—	—	1
Smallpox, ...	13	10	3	3	—	—
Enteric Fever, ...	6	4	2	2	—	—
Scarlet Fever, ...	18	11	7	7	—	—
Diphtheria, ...	4	3	1	1	—	—
Measles, ...	27	16	11	7	4	—
Whooping-Cough, ...	12	10	2	—	2	—
Chickenpox, ...	12	10	2	—	2	—
Phthisis, ...	18	5	13	1	12	1
Venereal, ...	29	9	20	1	19	—
Pneumonia, ...	19	6	13	9	4	1
Erysipelas, ...	2	1	1	—	1	—
Dysentery, ...	8	—	8	8	—	—
Malaria, ...	25	6	19	2	17	1
Influenza, ...	39	3	36	2	34	—
Meningitis, ...	1	1	—	—	—	—
Mumps, ...	6	2	4	—	4	—
Beri-Beri, ...	1	1	—	—	—	—
Dengue Fever, ...	4	4	—	—	—	—
Tonsilitis, ...	12	2	10	—	10	—
Trachoma, ...	1	—	1	1	—	—
Continued Fever, ...	3	—	3	1	2	1
Non-pulmonary Tuberculosis, ...	2	—	2	—	2	—
Accidents, ...	1	—	1	1	—	—
Simple Bubo, ...	2	2	—	—	—	—
Other Illnesses, ...	44	15	29	8	21	9
Totals, ...	310	122	188	54	134	14
1926, ...	246	81	165	62	103	12

Smallpox.—On 2nd February, at 5.15 a.m., the s.s. Constantine arrived at the Tail of the Bank. The ship had left Newcastle on 20th January for Antwerp, where it arrived on 22nd and left on 25th

January. After leaving Antwerp the second engineer was found to have a rash on face, arms, and hands, with mild gland symptoms. The ship put into Portland (Weymouth), where the engineer and a second member of the crew were taken to hospital with smallpox. On arrival at Greenock the crew, consisting of 11 British subjects and six Arabs, were examined, and found free from disease. All except three had evidence of successful revaccination. It was thought advisable to remove the crew to the Reception House for thorough disinfection, and, on return to the vessel, they were not allowed ashore until the ship sailed on 8th February. The ship was inspected twice daily while in dock.

The other cases were on a ship from Calcutta. Four days before the ship arrived at a Mediterranean port one of the crew sickened, and on arrival at the port the Quarantine M.O. stated that it was a mild case of smallpox, but did not remove the case to hospital, but vaccinated the crew. Sixteen days after 2 others of the crew sickened, and on arrival of the ship at Dundee two days later the 3 cases were removed to hospital as smallpox. The crew were again vaccinated. The ship left for Glasgow via Hamburg, Rotterdam, and Antwerp, and on arrival at Greenock a fresh case occurred, and two days later another case. These two cases were removed to hospital at Robroyston. At Greenock those of the crew who did not show successful re-vaccination at Dundee were done—74 in all. The ship was fumigated at Glasgow, and the crew prohibited shore leave. The vessel was kept under strict surveillance, but no fresh cases occurred, and before sailing the three patients from Dundee rejoined their ship.

Enteric Fever.—Only 2 cases were found on arrival—one a fourth engineer, the other a second officer. In neither case was the illness due to drinking water on board ship.

Scarlet Fever.—7 cases were recorded—3 among crew and 4 among passengers (all children).

Measles.—Of the 11 cases found on arrival 7 were passengers and 4 were members of crews.

Phthisis.—During the year 13 cases were found, 3 among crews and 10 among passengers. Of the 10 passengers 7 were deports from Canada and America. In all cases where the patients resided outside Glasgow the M.O.H. of the district to which the patient was proceeding was notified.

Influenza.—36 cases were found, all of a mild type. All except 2 passengers were members of crews.

Venereal.—During the year 192 seamen attended the venereal disease clinic. Of these 107 suffered from gonorrhœa, 69 from syphilis, 2 from mixed infections, 2 from balanitis; in 12 there was no apparent disease.

Anthrax.—Goat-skin thongs continue to be used as bindings for orange boxes from various ports in Spain. During the year samples have been examined by the bacteriologist for the presence of anthrax bacillus. Several positive findings were obtained, and the results communicated to the Scottish Board of Health.

IRISH FREE STATE TRAFFIC.

Twelve ships arrive weekly, carrying annually large quantities of foodstuffs. Considerable difficulty is sometimes experienced in carrying out the provisions of the Unsound Food Regulations, owing to the despatch with which this traffic is handled. All vessels from the Irish Free State are boarded on arrival at the Boarding Station, Greenock, and also at Glasgow.

719 ships arrived during 1927 as compared with 448 during 1926, the decrease in 1926 being due to the coal stoppage. From 7th January to 12th June 316 vessels arrived; 95 of these were unboarded. From June 13, when two additional inspectors began duty, to December 31, all of the 403 vessels which arrived were boarded. The arrivals each month are given in a table on page 171.

ALIENS ORDER.

All aliens who intend to remain in this country for three months or more are subject to medical examination. During 1927, 536 persons were examined.

During the year 72 ships carrying alien passengers arrived at the Port of Glasgow, which is the same as the number of arrivals during 1926. Of the 72, 37 were from New York, 28 from Montreal, 2 from St. John, N.B., 2 from Lisbon, and 1 each from Bilbao, New Orleans, and Vancouver. There were 8 rejections on medical grounds.

U.S.A.	citizen,	female,	saloon	passenger—	Carcinoma
,,	,,	male,	3rd class	,,	Neurasthenia.
,,	,,	female,	saloon	,,	Dysentery.
,,	,,	male	,,	,,	Pneumonia.
,,	,,	,,	3rd class	,,	Chickenpox.
,,	,,	,,	2nd ,,	,,	Paralysis Agitans.
,,	,,	,,	3rd ,,	,,	Infantile Paralysis.
,,	,,	,,	,, ,,	,,	Physical Debility.

Return of Alien Passengers arriving at the Port of Glasgow during 1927.

Nationality	Non-Transmigrants	Transmigrants	Total
Americans, ...	4,933	1	4,934
Europeans, ...	37	44	81
Asiatics, ...	8	—	8
Total, ...	4,978	45	5,023
Do. 1926, ...	4,688	47	4,735

EMIGRANTS.

During 1927 127 ships carrying emigrants left the Clyde, an increase of 10 as compared with 1926. Of these 36 sailed for America, a decrease of 4, and 91 sailed for Canada, an increase of 14 compared with the previous year. Passenger ships sailing from the Clyde for Australia and New Zealand embark passengers at Liverpool.

The following is a return of emigrants and ships which left Glasgow during 1927 :—

Country.	Ships.	British Subjects.	Other Nationalities.	Total.
America, ...	36	14,386	2,506	16,892
Canada, ...	91	22,428	1,557	23,985
	127	36,814	4,063	40,877
1926, ...	117	35,107	4.967	40,074

RAT DESTRUCTION.

No alteration has been made in the procedure adopted for the fumigation of ships by SO_2. Such fumigations are done by the Public Health Department.

HCN fumigations are carried out by private firms under the supervision of a medical officer, when a certificate is requested. No certificates were granted during the year for HCN fumigations. The regularity of fumigation of vessels by SO_2 has proved effective, as shown by the considerable diminution of rats on ships.

100 vessels were fumigated by the Department in accordance with the instructions issued by the Scottish Board of Health. Of these 73 were from infected ports and 27 from non-infected ports. In six instances certificates of exemption from fumigation were granted, where the vessel was new or had been deratised within six months, and 19 existing fumigation certificates were endorsed. These 19 vessels were loaded at a distance of 8 feet from the wharf, rat guards affixed and all other methods adopted to prevent the migration of rats. Poison is not used at this port.

After a vessel is fumigated a thorough search is made for rats, and the following table summarises the results of fumigations, trappings, etc., during the year :—

	Infected Ships.	Non Infected Ships	Stores and Docks.
SO_2 Fumigations,	472	171	—
Trappings, ...	534	166	111
	1.006	337	111
Total, ...	...	... 1.454	

Of the 1,454 rats trapped or destroyed by fumigation, 895 were black rats and 649 were brown or grey rats. 169 were submitted to the City Bacteriologist with negative results. Almost all the rats were found in the holds and store rooms of vessels. Of the total number of rats, 1,320 were male and 134 female.

NUISANCES ON SHIPBOARD.

2,544 inspections and reinspections of vessels in harbour were made during the year. The visits to oversea steamers numbered 1,674, and the revisits 531. In oversea sailing vessels, 1 inspection was made, while 282 coasting steamers and 30 sailing craft were examined, revisits being paid to 22 of the former and 4 of the latter. 138 verbal warnings were given to masters where nuisances of a minor nature were found, and 186 intimations and 7 notices (under the Public Health Act) were served where defects existed. 903 verbal instructions were given, and 125 notices served on masters of vessels *re* locking up water-closet accommodation while vessels were in port.

The nuisances discovered numbered 1,837—in forecastles. rooms, &c., 553, and water-closets, wash-houses, &c., 280, while structural defects were found in 462 instances—359 within crews' quarters, and 103 in water-closet and lavatory compartments. General complaints were recorded in 542 instances.

Sanitary Defects and Nuisances.—The following table shows the nuisances found on board vessels arriving in the harbour:—

ARISING FROM STRUCTURAL DEFECTS.

Forecastles, Rooms, &c.—	1925	1926	1927
Overhead decks leaking,	68	24	75
Ports defective,	113	91	190
Skylights out of repair,	—	5	3
Without scupper-pipe or same cemented,	—	1	—
Ventilators plugged. out of repair or unshipped,	—	2	1
Without bogies or funnels, or such out of repair,	8	10	11
Inadequately lighted or ventilated,	9	3	6
Radiators or steam-pipes defective,	15	10	20
Doors to forepeak and forecastle broken,	—	1	5
Ships' sides leaking,	5	1	—
Anchor chain exposed by sheathing being out of repair,	1	1	2
Doors of food lockers and seats out of repair,	—	1	20
Requiring wood-sheathing or cork-spraying for "sweat,"	3	2	2
Hawse pipes defective,	—	1	2
Floors broken and out of repair,	3	1	20
Bulkhead between forecastle and w.c. compartment broken,	1	—	2
Scuppers required,	—	1	—
Waste pipe leaking,	—	1	—
	226	156	359

Water-closets, Urinals, Wash-houses, &c.—	1925	1926	1927
Flushing apparatus, basins or discharge pipes defective, ...	12	15	33
New water-closet required, ...	2	2	13
Ports defective,...	—	—	3
Floor and woodwork out of repair, ...	—	—	1
Doors broken and new locks required (w.c's. must be locked while ship is in harbour),	14	13	8
Ventilators plugged, ...	—	1	1
Woodwork of w.c. basin broken, ...	12	16	32
Compartments defective in light and ventilation,	2	5	12
	42	52	103

ARISING FROM MISUSE.

Forecastles, Rooms, &c.—	1925	1926	1927
Alleyways and companionways dirty, ...	97	78	100
Floors, mat coverings, ceilings, woodwork, &c., dirty,	148	115	138
Interior of ships' sides or woodwork dirty (to be limewashed or repainted), ...	94	74	93
Galleys dirty, ...	16	13	9
Tables and benches dirty, ...	168	172	192
Scuppers choked (water lying stagnant), ...	19	11	19
Bunks dirty, ...	—	14	2
	542	477	553

Water-closets, Wash-houses, &c.—	1925	1926	1927
Floors, ceilings, and woodwork dirty, ...	102	89	75
Basins, hoppers, or troughs fouled, corroded, or choked,	119	106	113
Scuppers choked, ...	28	23	36
Wash-house dirty, ...	—	4	4
Interior requiring limewashing or repainting, ...	64	52	50
Waste-pipe defective, ...	1	2	2
	314	276	280

General Nuisances.	1925	1926	1927
Food lockers dirty, ...	220	208	257
Bilges (hold) dirty, ...	32	44	64
Gear and food-stuffs stored in sleeping compartments,	4	4	14
Drinking-water tanks dirty and in need of re-cementing,	52	67	85
Do. out of repair or uncovered, ...	2	4	2
Accumulation of rubbish in forecastle or on deck, ...	62	56	49
Forecastle infested with vermin, ...	12	20	53
Bedding dirty or verminous, ...	10	16	18
Bilges ventilating into forecastle, ...	2	—	—
	396	419	542

The following table shows the number of oversea and coastwise ships inspected in the harbour during the years 1925-1927:—

	Inspections.			Re-inspections.		
	1925	1926	1927	1925	1926	1927
Oversea Steam,	1,728	1,598	1,674	337	350	531
,, Sail,	7	8	1	3	3	—
Coast Steam,	314	278	282	35	34	22
,, Sail,	24	28	30	6	5	4

	1925	1926	1927
Intimations, ...	63	55	186
Warnings, ...	201	177	138
Notices, ...	7	7	7
Letters to other Port Authorities, ...	14	20	31
Nuisances—			
Functional, ...	856	753	833
Structural, ...	268	208	462
General, ...	396	419	542

Of the total arrivals, 1,334 were British and 342 vessels sailed under foreign flags, the latter including 16 different nationalities, Norwegians, Spaniards, Americans, Germans, Danish and Dutch predominating.

Pollution of River.—In order to reduce pollution of the river, the Clyde Navigation Trustees some years ago provided water-closet accommodation ashore for seamen. Intimation is therefore given to masters that all conveniences aboard ship must be kept locked while ship is in port. Complaints are frequently received from Deputy Harbour Masters and others that the nuisance still continues. There is, however, no legal power under which action can be taken, at least so far as obtaining a conviction.

Rags, Hair, Hides, and Bones. — The following table shows the imports of rags, hair, hides, and bones, with the source of origin and number of shipments:—

Source of Origin.	No. of Ships.	Rags.	No. of Ships.	Hair (Various.)	No. of Ships.	Hides (Various.)	No. of Ships	Bones.
		Bdls.		Bdls.		Bdls.		Bags.
Continental, - -	65	2,099	28	563	70	19,168	...	...
Canadian, - - -	...	...	14	1,053	4	2,620	...	...
United States, - -	...	...	30	6,558	7	976	...	...
South America, - -	...	...	10	164	4	9,212	2	1,058
Australia & N. Zealand,	...	...	...	...	22	5,023	...	...
India, - - - -	...	...	...	...	5	303	...	...
South Africa, - -	...	...	...	...	4	290	4	3,359

In addition to the foregoing, there is a considerable quantity of rags imported from Irish Free State ports.

UNSOUND FOOD REGULATIONS.

The following table shows the character and quantity of the food-stuffs imported direct during 1927 (but does not include coastwise or transhipped cargoes), a percentage of which was examined by the Food Inspectors before removal:—

Article.	Weight.		Article.	Weight.	
	Tons.	Cwts.		Tons.	Cwts.
Apples, ...	35,583	10	Eggs (liquid). ...	3,677	15
Apricots, ...	261	12	Eggs (albumen), ...	234	4
Almonds, ...	1,013	18	Fish (canned, &c.),	973	3
Bananas, ...	134	11	Fruit (canned), ...	2,667	9
Bacon, ...	487	9	Fruit (dried), ...	7,831	14
Baking Powder, ...	96	8	Fruit (pulp), ...	664	16
Barley, ...	34,279	1	Flour (various), ...	150.163	15
Butter, ...	1,896	12	Farinaceous Foods,	3,901	18
Cereals (Oats, Rye, &c.),	138,997	14	Glucose, ...	2,869	10
Cheese, ...	3,090	5	Grapes, ...	3,228	15
Coffee, ...	2	4	Grape Fruit, ...	1,272	10
Cocoa, ...	40	18	Ham, ...	8.385	13
Condiments, ...	5,885	7	Honey, ...	128	16
Confectionery, ...	776	5	Lard (pure), ...	2,994	7
Cream of Tartar, ...	369	4	Lard (compo.), ...	236	10
Eggs, ...	27,397	18	Lemons, ...	3,960	11

Article.	Weight Tons.	Weight Cwts.	Article.	Weight. Tons.	Weight. Cwts.
Liquorice,	19	8	Pears(canned and dried)	2,105	18
Meal (various),	11,348	10	Pineapples.	1,351	16
Meats (canned, &c.),	5,360	9	Plums (canned and dried).	572	3
Melons,	1,920	7	Pomegranates,	189	12
Milk (canned),	139	18	Potatoes,	1,393	6
Milk (powder),	154	7	Peas,	7,591	5
Molasses,	1,374	18	Rice,	8,874	5
Macaroni,	437	10	Sundries,	8,624	5
Nuts (various),	2,080	—	Sugar,	36,863	10
Oils (various),	8,346	11	Syrup,	398	3
Onions,	37,389	16	Tomatoes,	15	16
Oranges,	33,994	17	Tomatoes (canned),	1,085	1
Orange and Lemon Peel,	73	4	Vegetables (canned),	1,590	9
Peaches (canned),	1,047	1	Wheat,	176,156	15
Pears,	1,404	11			

Total weight, ... 795,407 tons 13 cwts.

The following food-stuffs were found unfit and disposed of to the satisfaction of the Medical Officer of Health:—

Article.	Weight. Cwts.	Weight. Qrs.	Weight. Lbs.	Article.	Weight. Cwts.	Weight. Qrs.	Weight. Lbs.
Apples (fresh),	15	3	—	Oranges (bitter),	300	—	—
Apples (canned),	2	1	—	Oranges (sweet),	11,289	—	—
Apricot Pulp,	2	3	—	Pears (fresh),	75	1	—
Biscuits,	7	2	—	Pears (canned),	—	—	18
Cherries (canned),	4	—	—	Peaches (canned),	—	—	14
Cherries (glaced),	4	—	—	Pickles,	—	2	14
Coffee,	—	1	22	Pineapples (canned).	—	—	15
Confectionery,	45	—	—	Plums (fresh),	45	—	—
Corn (canned),	—	1	20	Potatoes,	12	—	—
Flour,	227	—	—	Raisins,	—	—	24
Fruits (canned),	—	1	24	Raspberries (canned),	—	—	13
Grape Fruit (canned),	13	2	—	Rice.	29	—	—
Greengages (fresh),	1	2	—	Sugar,	108	3	—
Herrings (pickled),	60	—	—	Tea,	1	1	—
Meats (canned),	55	1	2	Tomato Purée,	48	2	3
Milk (canned),	2	2	2	Wheat,	452	—	—
Olive Oil,	11	—	—				

Total weight, - - 12,815 cwts. 2 qrs. 3 lbs.

The above table shows the great variety of the food-stuffs inspected and dealt with. The method of procedure in each case is the same. The suspected food-stuffs are detained for further inspection, the consignee is communicated with, and a suitable time fixed for re-examination of the material. As a rule, the consignees, on being satisfied as to the unsoundness of the food, empower the inspector to have the condemned food disposed of, thereby obviating the necessity for obtaining a warrant from the Sheriff or Magistrate. Much time is often taken up in examining and supervising the reconditioning of consignments.

"Sooty Mould" in Oranges.—Samples of oranges taken from a consignment from Jaffa during December were submitted to the Bacteriologist, who reported that they were affected by the fungus known as "sooty mould," which is widely distributed, and particularly injurious where citrus fruits are grown. The cases were reconditioned at the dock, and all oranges showing signs of the fungus or other decay were condemned and removed by the Cleansing Department. The total so dealt with amounted to 180 cwts.

The bacteriological report of "sooty mould" will be found in Section XI, dealing with the work of the Bacteriological Laboratory.

ARSENIC IN APPLES.

Of 85 samples of various brands of apples, 45 were reported as containing no arsenic. Of the remaining 43 samples, 22 contained arsenic within the prescribed limit; 4 contained 1-100th of a grain; and 15 contained quantities varying from 1-45th to 1-30th of a grain per lb. 64 of the samples were taken from apples landed here from North American ports, and 21 were from Australasian and Canadian ports. Of the 21 samples taken from these latter ports, the arsenic found was well within the limit.

It was not considered necessary to condemn any of the fruit, and no instance occurred in which sickness could be attributed to its consumption. Representations were again made to the leading fruit importers, who in turn communicated with the International Apple Shippers' Association, who reported the matter to the exporters on the American side. The results were also communicated to the Board of Health.

FOOD-STUFFS EXAMINED.

During the year food-stuffs were sampled and submitted to the City Analyst, who reported as follows:—

	Samples Reported.		
Article.	Fit for Human Consumption.	Unfit for Human Consumption or not in conformity with Regulations.	Notes on Defective Samples.
Almonds, ...	—	1	Damaged by "sweat" and bilge water. 112 lbs. destroyed.
Apples, ...	64	21	Contained Arsenic, varying from $\frac{1}{1000}$ to $\frac{1}{30}$ of a grain per lb.
Apricot Pulp, ...	—	1	Burst and blown. 186 lbs. condemned.
Baking Powder, ...	3	—	
Blackberries, ...	1	—	
Butter, ...	37	—	
Butter Substitute, ...	3	—	
Buttermilk, ...	1	—	
Cereals (Grape Nuts, Force, &c.), ...	2	—	
Coffee Substitute, ...	1	—	
Cheese, ...	1	—	
Cherries (in brine),	1	—	
Confectionery, ...	3	2	Damaged by fire, smoke, and river water. 45 cwts. condemned and removed to Destructor.
Cream of Tartar, ...	12	—	
Egg Yolk (liquid), ...	22	—	
Egg Albumen, ...	1	—	
Egg Whole (liquid),	1	—	
Fats (various), ...	16	—	
Fish (canned, &c.), ...	17	—	
Flour (various), ...	8	2	Damaged by fire and river water. 28$\frac{3}{4}$ cwts. condemned.
Fruits (dried), ...	67	—	
Fruits (canned), ...	70	—	

Article.	Samples Reported.		Notes on Defective Samples.
	Fit for Human Consumption.	Unfit for Human Consumption or not in conformity with Regulations.	
Gelatine (edible), ...	—	—	
Glucose, ...	2	—	
Grain (Wheat, Maize, &c.), ...	—	3	Damaged by fire and river water. 455 cwts. condemned, but released for pig and poultry feeding.
Ham, ...	4	4	Contained from 14·73 to 25·57°/o of Boric Acid.
Honey, ...	3	—	
Jam, ...	1	—	
Lard, ...	15	—	
Macaroni, ...	1	—	
Margarine, ...	—	—	
Meats (canned, &c.),	19	3	Burst and blown. 750 lbs. removed to Destructor.
Milk (canned), ...	5	—	
Milk (dried), ...	4	—	
Molasses, ...	2	—	
Oatmeal, ...	—	—	
Oils (various), ...	21	3	Contained from 11·06 to 11·93°/o of free fatty acids.
Pork and Beans, ...	11	—	
Pears, ...	—	1	Diseased. 125$\frac{3}{4}$ cwts. destroyed.
Sauces, ...	8	—	
Sugar, ...	—	2	Bilged and damaged by smoke and river water. 148$\frac{3}{4}$ cwts. released for refining purposes.
Soups, ...	8	—	
Syrup, ...	1	—	
Tartaric Acid, ...	2	—	
Tomatoes (canned),	16	2	Burst and blown. 2,695 lbs. condemned and removed to Destructor.
Treacle, ...	1	—	
Vegetables (peas, &c.),	21	—	

The following statement compiled from information supplied by the Corporation Veterinary Surgeon indicates the work done under the Foreign Meat Regulations:—

FOREIGN MEAT REGULATIONS.

BEEF.	1925	1926	1927
Quarters, ...	34,498	21,321	4,485
Bags, ...	174,492	192,062	152,793
Rumps (tierces), ...	1,419	1,403	892
Mess (barrels), ...	1,110	537	352
,, (boxes), ...	—	—	4,742
,, (crops), ...	371	—	—
Boneless (boxes), ...	69,773	30,214	—
Tierces, ...	691	327	190
Casings (tierces),... ...	—	24	—
Fat, ...	489	700	—
OX.			
Livers (boxes), ...	2,524	241	125
Kidneys (boxes), ...	—	38	—
Skirts, ,, ...	1,046	—	—
Cheeks, ,, ...	1,594	—	140
Sweetbreads (boxes), ...	550	24	—
Tripe (boxes), ...	1,864	6.155	1.999
Hearts, tails, &c. (bags),	1,621	49	10
Tongues (boxes), ...	54	697	100
,, (bags), ...	—	—	268
,, (calf) (bags), ...	—	—	50
VEAL.			
Carcases, ...	32,245	—	—
Sides, ...	204	14	—
Bags, ...	387	36	31
Boxes, ...	2,966	2.120	429
MUTTON.			
Carcases, ...	27,540	31,366	45,122
Cuts (bags), ...	13	6	—
Casings, ...	60	210	—
PORK.			
Mess (barrels).	523	—	500
,, (carcases), ...	—	—	15,132
,, (boxes), ...	3,082	—	—
,, (tierces), ...	30	—	—
Tongues, &c. (bags or boxes),	655	—	—
Forward, ...	359,801	287,544	227,360

	1925	1926	1927
Forward, ...	359,801	287,544	227,360
PORK (*continued*)—			
Casings (barrels or tierces),	177	—	—
Ham (tierces), ...	379	220	110
,, (boxes), ...	12,946	10,919	7,874
,, (bags), ...	—	60	—
Loins (boxes).	5,218	8,933	5,023
Mess barrels, ...	—	570	—
Carcases, ...	9,803	12,941	—
Bacon (tierces), ...	—	5	—
,, (bales), ...	555	1,131	1,630
Shoulders (boxes), ...	—	742	843
Kidneys (boxes), ...	—	13	—
Casings (various) (casks),	—	—	197
FISH, FOWLS, &c.			
Salmon, ...	—	—	—
Fowls, ...	1,770	—	—
Others, ...	—	—	—
Total Packages, ...	390,649	323,078	243,037
Destroyed—			
Beef (bags), ...	—	31	9
Calf Tongues, ...	—	—	lbs. 154

EXPENDITURE AND REVENUE FOR THE YEARS ENDING 31ST MAY.

	1926	1927	1928
Expenditure.	£	£	*
Boarding Station, Greenock, ...	1,416	1,419	—
Glasgow Harbour, ...	3,842	3,865	—
General and Administrative, ...	1,709	1,743	—
Medical Inspection under Aliens Order,	373	357	—
Total, ...	7,370	7,385	—
Revenue.			
From other Authorities, Government Grant, &c., ...	4,222	4,592	—
Glasgow Expenditure, ...	3,148	2,793	—

* Figures not yet available.

SECTION X.

HOUSING.

In Appendix Table III the linings for new houses granted by the Dean of Guild Court are given from year to year. The number granted for last year—5,183—compares with 6,796 for 1926, and both these figures show a considerable advance over the number of linings granted in former years.

In the annual reports for 1925 and 1926 special reference is made to the high degree of overcrowding which is a feature of life in the small houses of the city, and statistics are given exhibiting certain tendencies. It has, for instance, been impossible for many years to put in operation the powers possessed to prevent statutory overcrowding in ticketed houses, of which there are 18,000 under sanitary supervision in the city. The most that can be done is to prevent gross overcrowding of one house by two families. The degree of overcrowding found in these houses, arising mostly from the increase in size of individual families, rose rapidly during and after the war up to 15 per cent., round which figure it has remained stationary for the past three years. A decline in this figure will be an indication that the housing shortage is being sufficiently overtaken to afford relief to the occupants of these houses.

In previous reports the results of several investigations were given, showing that there had developed and spread a tendency for two families to crowd into one house, mostly a two-apartment one. This method of meeting the demand for house accommodation by sub-letting a room was found to be prevalent in certain areas and streets of the City. In certain parts it was found, for instance, that among 2,110 houses, 254, or 12 per cent., contained two families. Close observation has since been maintained, and there would not appear to be any evidence of an increase in this tendency or of this particular form of overcrowding, although it cannot be said to have diminished appreciably in volume. This is a somewhat unobstrusive form of overcrowding, confined chiefly, though not altogether, to the poorest classes of the population.

The most common form of excessive overcrowding is the presence of a large family in a small house, leading, among other difficulties, to the mixing of the sexes. In a survey undertaken in 1926 it was found that 41 per cent. of the one-apartment houses in the Central division of the City were occupied in excess of three persons per room.

An effort is being made to assist the Manager of the City Improvements Department in the allocation of houses of the "intermediate" type (12s. a week, inclusive of rates) among the most overcrowded families. For this purpose divisional lists are maintained, composed of householders whose families are living in excess of 5 persons in a single apartment and 9 in a two-apartment house. These lists contain over 3,000 names, and a preliminary extract has been forwarded to the Manager, containing those most deserving and whose total incomes are between £3 and £4 per week. The incomes of the majority are under this figure. Unemployment adds to their difficulties, and throws them out of competition for new houses.

Observations indicate that an increasing degree of movement from house to house and interchange of houses is taking place among the poorer classes, but without sensibly reducing the volume of overcrowded houses.

While the linings granted for new houses during the past two years reveal a considerable acceleration in the rate of building, strenuous efforts still require to be made to overtake the shortage of houses capable of being let at a rental such as the working classes can afford. This is really the crux of the housing problem. The policy of the Corporation, to concentrate on the production of three-apartment houses at moderate rentals with carefully controlled principles of letting for the purposes of housing overcrowded families, is therefore a wise one.

Conditions in Rehousing Schemes.—During the year certain problems arose as the result of experience obtained in the supervision of households occupying rehousing schemes in various parts of the City, and a special sub-committee was appointed by the Sub-Committee on Insanitary Areas to deal with these. Following upon a report to this committee (quoted in last year's Annual Report), it was decided *(a)* to appoint a special nurse inspector to exercise intimate supervisory duties over the less satisfactory tenants, this officer to be on the staff of the Public Health Department; and (*b*) to promote a clause in the next Provisional Order (1928) amplifying the powers possessed for the maintenance of cleanliness in dwelling-houses. Clauses have accordingly been prepared, whose purpose is, briefly, to make it an offence where a house or its contents are found to be in a filthy condition at any time within three months after a notice to cleanse has been served on the householder.

The appointment of a special officer has been thoroughly justified, and the appointment of a second has since been authorised. As the rehousing of the occupants of uninhabitable houses on a large scale is one of the most important public health and sociological experiments of the times, the following reports, giving in some detail the procedure adopted along with some of the results and impressions formed, are here inserted:—

REPORTS ON CONDITIONS IN REHOUSING SCHEMES.

The following report has been prepared for the information of the sub-committee appointed to consider the problem of the unsatisfactory or difficult tenant in houses provided under Slum Clearance and Rehousing Schemes. Although the function of the sub-committee appears to be limited to this one aspect of rehousing, it is an aspect which can be properly considered only in relation to the whole experiment. I have accordingly prepared, for the assistance of the committee, an account of rehousing conditions generally and of the measures being undertaken for the general and particular supervision of the rehoused families, brought up to date.

In order, therefore, to keep the question of the unsatisfactory tenant in due perspective, this report comprises (*a*) a general view of the conditions obtaining in the Rehousing Schemes, and (*b*) a study of individual cases where special sanitary difficulties have been encountered. The whole problem is of great importance, because the Local Authority is now being brought into close contact with social conditions in the prosecution of its health and sanitary functions.

Previous Reports on Rehousing Conditions.—The report of 25th January, 1926, to the Sub-Committee on Insanitary Areas contained an analysis of the conditions found in the four schemes at Hamiltonhill, Newbank, Polmadie and Yorkhill. This report dealt with two aspects of rehousing—(*a*) the tendency to overcrowding, and (*b*) the condition of the houses as to cleanliness. As regards the latter, which is the aspect of the problem under review at the moment, the following extract from the report may be quoted:—

"The condition of the houses inspected has been carefully assessed, and the results indicate that a large percentage of them are well kept, and that the tenants are appreciative, have raised their own standards in proportion to the improvement in their housing conditions, or are showing a tendency to do so. There is, however, a residue which varies in the different schemes, and which is estimated at 10 per cent. at Hamiltonhill, in regard to which reports are decidedly adverse, the houses being dirty and badly kept in spite of warnings and the issue of notices under Section 9 of the Glasgow Corporation (Police) Order Confirmation Act, 1904. The results of this inspection may be expressed statistically as follows:—

	Hamiltonhill.	Newbank.	Polmadie.	Yorkhill.	TOTALS.
Very Good, ...	144	251	41	74	510
Intermediate, ...	170	50	54	7	281
Dirty, ...	34	...	7	3	44
	348	301	102	84	835

"Thus, 61 per cent. belong to the 'very good' category. With reference to the 'intermediate' group, it is fair to say that, having regard to the high standard adopted, a considerable proportion approximate to the highest group, while others appear to oscillate between this and the third group."

In a further report (February, 1927), the position was again reviewed, when it was pointed out that among 1,144 houses in the various schemes, some 111 had been very adversely reported on, and were classified as "dirty." The majority of these houses had been under observation for a considerable period, and details of some typical cases were appended; it was found that a certain amount of oscillation took place from time to time as between "fair" and actually "dirty" conditions.

Procedure as regards Inspection and Supervision.—Up to the date of the last-mentioned report the practice had been for the divisional sanitary inspectors, through their female sanitary staff, to carry out routine inspection of all the houses in the various schemes three or four times a year or oftener, special attention being given to those found in a dirty condition, to which repeated visits were paid. Up to this point, also, it was not clear what should be the respective duties of the sanitary staff and of the resident caretaker. Experience had by this time led to the suggestion that a special officer should be attached to the Health Department for the purpose of taking over the supervision of tenants, and the inspection of houses in the larger schemes, and that the work of this officer should be regarded as additional to, and not in substitution for, that of the existing caretakers employed by the City Improvements Department. The Corporation approved of this proposal, and the officer appointed took up these special duties in August of this year. She has devoted her attention to the unsatisfactory tenants in the larger schemes at Hamiltonhill, Belvidere, and Newbank, while the other smaller areas are still entirely under the supervision of the divisional staff, as already mentioned. A system of concentrated visitation and supervision of difficult and unsatisfactory tenants is therefore of recent origin.

In this report it was also remarked that the existing powers to enforce cleanliness in houses are not sufficiently strong, and it was recommended that power should be obtained to prosecute " in respect of the keeping of a dwelling-house in a dirty condition at any time within three months after a notice had been served." Steps are now being taken in co-operation with the Manager of the City Improvements Department to ensure that vermin are not conveyed from old to new houses.

Present Conditions in various Rehousing Schemes.—It is apparent that much depends on routine inspection and supervision of individual tenants, and the following data show the necessity for this, and the results of this procedure in so far as they can be expressed in brief statistical form.

(1) *Yorkhill Rehousing Scheme.*—This scheme contains 84 houses. In the report of January, 1926, 74 were classified as " clean," 7 as " fair," and 3 as " dirty." This classification has now become 79 " clean " (among whom 38 require supervision), 5 " fair," while none are in the definitely "dirty " category.

(2) *Scotstoun Rehousing Scheme.*—In this area, which has only recently been opened, there are 96 houses, of which 85 are in the " clean " category (58 requiring regular supervision), 10 are " fair," while none are definitely " dirty."

(3) *Whitefield Rehousing Scheme.*—This scheme contains 114 houses. In the report of January, 1926, 82 houses were in the " clean " category, 23 were " fair," and 9 were " dirty." The figures now are, 103 " clean," 7 " fair," and 4 " dirty." There has thus been a considerable transference from bad to better categories. For instance, 4 houses formerly classified " dirty " are now " clean "; 1 formerly " dirty " is now " fair "; and 16 formerly " fair " are now " clean." On the other hand, 2 have reverted from " clean " to " fair," while in the " fair " group 3 and in the " dirty " group 4 have remained unaltered.

It is interesting to note the present position as regards the 9 tenants whose houses were reported as " dirty " in January, 1926. One of these has changed from " dirty " to " fair," while in 4 instances the classification has now become " clean " as the result of repeated visitation and the issue of police notices. There are, however, 4 tenants who remain in the lowest category for reasons which will be given later in the report.

(4) *Polmadie Rehousing Scheme.*—In this scheme there are 102 houses. They were originally classified into, 41 " clean," 54 " fair," and 7 " dirty." This classification has now become, 63 " clean," 30 " fair," and 9 " dirty." It is important to note the transferences which have taken place in these categories. For instance, 21 have been transferred from the " fair " to the " clean " group, and 1 from " dirty " to " clean." Five have moved from " fair " to " dirty,"

and 2 from "dirty" to "fair." It would thus appear that the 9 "dirty" tenants are not the same as the 7 in the original classification. Those now placed in the lowest category will be referred to later.

(5) *Hamiltonhill Rehousing Scheme.*—Miss M'Michael, of the Scottish Board of Health, deals with the same point in her report of 26th August, from which the following is an extract:—

> "Out of the 50 odd houses which I inspected in the extension scheme (Hamiltonhill), I found the great majority were being kept in a satisfactory manner. In about a dozen cases the conditions were merely fair, and two others were dirty. In the earlier scheme, where I visited 60 houses, I found that 41 were being kept in a satisfactory manner, 16 were fair, and 3 were dirty. This is a very great improvement on the conditions found at my earlier visit, when, out of 34 houses visited, only 13 were occupied by satisfactory tenants, 13 others were fair, and 8 were dirty. The improvement may be accounted for partly by the fact that a number of the more careless tenants has left the scheme—either by eviction or of their own accord. There is also, however, evidence that some of the tenants are making a better attempt to keep the houses in a proper manner, and both caretakers were definitely of opinion that this was the case."

(6) *Newbank Rehousing Scheme.*—Before being delegated to special duties in the larger schemes, as above mentioned, the nurse inspector was attached to the Eastern division, with inspectorial duties chiefly in connection with the Newbank Scheme. The number of houses then occupied was 358, among which there were 33 classified as "dirty." As regards these 33, the position now is, 7 have left the district (including some of the dirtiest), 3 are still in the "dirty" category, 16 are "fair," and 7 are clasified as "clean."

The rough but suggestive figures quoted above show the oscillation which takes place in the cleanliness of houses, the tendency being quite definitely towards improvement, although relapses sometimes take place. It is apparent that, in the opinion of those who are carrying out the duty of supervision, decided results are being obtained, and that the intensive inspection now being undertaken is also having an effect.

The Unsatisfactory Tenant.—In order to make the problem as clear as possible, details of the current difficult cases are appended.* I have thought it advisable, in a difficult problem of this kind, to give, for the information of the committee, particulars of each of the families which have required more attention, because the extent and nature of unsatisfactory tenancy can only be appreciated by reference to specific cases. This report only deals with sanitary matters; it takes no account of overcrowding, which tends to make cleanliness and tidiness difficult, or of undesirability due to other causes.

The impressions gathered from the facts as given and from observation are:—(1) Under a règime of systematic and sympathetic supervision when necessary, the general tendency is towards further improvement among those who fall short of a reasonable standard of cleanliness; (2) this improvement may be slow in taking place, and there is danger of relapse; and (3) in the case of many who present great difficulty there are circumstances or reasons which account for their oscillation from good to indifferent, or from indifferent to bad, such as illness, low mentality, ignorance, pregnancy, disability, etc., while, on the other hand, indifference and alcohol may enter into the picture.

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* Not Printed.

The problem is extremely complicated, and it is very difficult to say when the stage of incorrigibility has been reached. At any rate, this decision should be come to only after a reasonably long series of observations and after the utmost supervisory efforts have been made. It is difficult to know just what value should be attached to extenuating circumstances, to the special difficulties of the tenants, or to habits which may be a legacy of past conditions. It is also relevant to point out that the special nurse inspector was appointed only recently.

Taking all the circumstances into account, I am of opinion that the general question of unsatisfactory tenancy can be judged only after longer concentrated observation and further trial of the procedure now being adopted, under the supervision of the Special Sub-Committee. I shall be glad if the committee will authorise the appointment of a second nurse inspector to assist in this work.

A. S. M. MACGREGOR.

27th September, 1927.

SUPERVISION OF TENANTS IN SLUM CLEARANCE SCHEMES.

(By the Visiting Nurse.)

The ordinary routine inspection is carried on, as formerly, by the sanitary inspectresses working under the divisional sanitary inspectors. Any houses which come to their notice as not reaching a satisfactory standard are passed on to the special officer, who then undertakes intensive visitation. The reason for this is that it was found by experience that to keep unsatisfactory houses up to anything like the desired standard frequent visits were necessary, for which the routine inspectors did not have sufficient time. In practice the work of visiting and revisiting involves a considerable amount of time. After explaining to the tenant what is amiss and how to remedy it, two or three days, or perhaps a week, are allowed, according to circumstances, in which to put matters right. Individual houses may have to be visited repeatedly before conditions become satisfactory. If the improvement is maintained for a period, which usually extends to about two months, the house is then transferred back to the original inspector for the ordinary three-monthly visitation by her.

This explains briefly the scope of the work of the special officer. In carrying it out, various methods are employed in an endeavour to influence, educate, and assist tenants in various ways. It may be necessary, however, in individual cases, to go further and exercise pressure, and it will be evident that the possession of the powers of a sanitary inspector, with which the special officer is endowed by reason of being attached to, and part of the machinery of the Public Health Department, is an asset of considerable value. These powers, I may explain, are founded on the Glasgow Corporation (Police) Order Confirmation Act, 1904, Section 9 of which authorises a sanitary inspector to deal summarily with houses, bedding, or furniture, found to be in a dirty condition, and to issue a notice on the spot to the occupier to clean the house within twenty-four hours, under a penalty. This power has to be occasionally exercised, but in many cases the mere threat of putting it into operation suffices. It sometimes, though seldom, happens that obstruction may be met with in the exercise of the duty of inspection. One can then fall back upon Section 56 of the Housing (Scotland) Act, 1925, which enacts that "Houses provided under this Act shall be open at all times for inspection to the Local Authority or to any duly authorised officer of the Local Authority."

One of the difficulties which has had to be contended with is the transference of vermin, especially bugs, from old to new houses by means of bedding, articles of furniture, picture frames, &c., and a careful watch has to be kept for the first sign of their appearance. There is at present, however, an arrangement in force whereby the sanitary inspectors endeavour to secure extermination of these vermin before the transference to the new houses takes place. This is by no means an easy matter.

Slum clearance houses, as regards cleanliness and order, are placed into three categories—"clean," "fair," and "dirty"—the last two named being looked upon as unsatisfactory, and it is these groups with which I have to deal particularly. Generally speaking, 64 per cent., of the new tenants give complete satisfaction. A large proportion of the houses occupied by them are neatly and even artistically furnished. The walls are covered with paper chosen to match the chintz curtains; the furniture is polished and well dusted, and due attention is paid to ventilation. Variation in the conditions of occupancy in this group is slight, and if by chance the house is found unsatisfactory, there is generally a reasonable excuse—usually illness.

Houses in the "fair" category amount to about 26 per cent. of the whole. In this group the tenants clearly show that they understand the need for cleanliness and tidiness, but unless there is constant and helpful supervision, some of them would quickly drift into a worse condition. In some cases it is difficult to draw a line of demarcation between these two categories, and I may say that the particular group into which these houses may be placed varies from time to time. It would take too long to describe in detail the methods of inspection, which include a great variety of points such as the condition of the floor, walls, bedclothing, bathroom and bath, kitchenette, &c. With a little advice or criticism, or persuasion, and a promise of re-inspection, a good deal of improvement can be accomplished in this group.

There remains a group, which varies in the different schemes and which may be roughly computed at about 10 per cent., who may be regarded as difficult or even incorrigible tenants. This may seem a high percentage, but it may be pointed out that this percentage does not apply equally throughout all the schemes; in one or two of the smaller schemes the percentage of this class is lower or does not exist. A very great deal of attention has been given to this group, and after the experience I have had I am satisfied that the results of repeated visitation have had the effect of removing a number of what at first sight seemed to be incorrigible tenants into a higher category. The work of endeavouring to impress tenants of this group is slow, and when one goes fully into the cases and learns the individual history of the families some leniency must be extended towards them. In practically every case there is a definite cause for their non-progress, usually illness, low mentality, profound ignorance, pregnancy, child-birth, physical disability, and in a few cases alcoholism.

One or two illustrative examples might be mentioned. In one case both parents are blind; the room is let to a blind man and his wife, who goes out charring and who has to keep the house clean in the evening; it naturally follows that she has not much energy when she comes home, hence the unsatisfactory condition of the house. In another case the mother is delicate and should be in hospital, but she cannot leave her three young children. It is not uncommon to find that a girl of 14 or 15 (where the mother is dead) has to do all the work—cooking and washing for her father, brothers, and sisters. One also finds mothers of families endeavouring to earn money by going out scrubbing, as, for instance, in one case where there are six children and the father is unemployed. For a time this woman found it impossible to keep the house up to a reasonable standard. but she is now more able to do so since the last child was born. In another case the mother of the family has one leg and is partly blind; her husband is working, and there are two grown-up sons who are not working and who refuse to help her. The more experience one obtains, the more one finds examples of sociological facts such as these, which prevent the full accomplishment of the objects aimed at, so that the cases which fall into the frankly incorrigible class, where a notice has to be served and where an example has to be made in court, are comparatively few in number.

I might now give a rough idea of the general results of the work undertaken since my appointment in August of last year. Although, naturally, it is difficult to do so, the records have been kept, so far as possible, in such a way as to be capable of tabular form. The following statement shows the number of "unsatisfactory" tenants (a term which includes all who do not come up to the standard of the highest or consistently clean category), who have come under observation, and the number of these transferred from one category to another :—

DISTRICT.	Original Number of Unsatisfactory Tenants.	Transferred from "Clean" to "Fair."	Total.	Transferred from "Fair" to "Clean."	Present Number on List.	Total.
Newbank, ...	117	21	138	50	88	138
Belvidere, ...	64	4	68	21	47	68
Springfield Road, ...	92	50	142	21	121	142
Garvald Street, ...	14	1	15	3	12	15
Hamiltonhill, ...	312	5	317	106	211	317
Campbell Street, ...	36	1	37	11	26	37
Total, ...	635	82	717	212	505	717

The table shows that nearly three times as many families are transferred from "fair" to "good" as from "good" to "fair." It is right, of course, to explain that, as regards the present number on the list, the process of rehousing is a continuous one, and tenants are constantly arriving as the new houses are got ready.

These figures do not show one very important aspect of the problem. Since taking up these duties, some 30 tenants, over whom supervision was being maintained and who were grouped in the unsatisfactory class, have been ejected for non-payment of rent. This shows pretty clearly that people who are unwilling to keep their houses clean are also unwilling to pay the rent. It is impossible to avoid the conclusion that these tenants have simply gone elsewhere, no doubt glad to escape from constant supervision. They have fallen back into slum conditions, and will, as progress with slum clearances goes on, constitute a problem which will have to be faced sooner or later. As illustrating the results of close inspection, out of 1,804 houses in the rehousing schemes of the North and East of Glasgow, 717 (or 40 per cent.) were transferred to me for supervision. Within six months, 212 showed sufficient improvement as to be transferred to the highest category, and are now under ordinary routine inspection.

In the different groups of houses with which I have to deal, there is a resident caretaker, who collects rents, looks after repairs, and takes note of any irregularity that comes to his notice. The caretakers are attached to the City Improvements Department, which is the House-letting Department of the Corporation, and there is continuous co-operation between them and the sanitary officers. With regard to the relative functions of the special officer and the resident caretaker, these do not in any way conflict. A trained nurse, with a knowledge of housekeeping, is able to grasp the difficulties of housekeeping, and can assist, advise, and sympathise with householders—by which I mean the mothers, who are, of course, responsible for the cleanliness and orderliness of the household. I have on occasion detected infectious diseases in the family, and sometime helped, in emergency, with sickness, and it may be reasonably assumed that a woman will tell her difficulties more readily to one of her own sex. A resident caretaker, unless a woman and carefully chosen, can scarcely be expected to fill a similar rôle. The success of paying special visits to unsatisfactory tenants is marked. This all-round improvement may, or may not, be permanent, but it at least shows that special supervision, along with helpful guidance, for a considerable length of time, is one of the lines along which satisfactory results may be obtained. Among the special difficulties which impress an officer undertaking duties of this kind reference should be made to the constant struggle with unemployment and poverty which many families have to face and which tends to create a sense of hopelessness.

In analysing my work, I am strongly of opinion that the majority do make an effort to keep their houses clean. Probably this effort is in part due to the fear of consequences, but the results, I think, show that by firm and sympathetic supervision there is good hope of ultimately bringing these tenants up to the desired standard of cleanliness. Supervision must be sympathetic, because there is in many instances an undercurrent of veiled opposition to frequent visits or even friendly advice. This is hardly to be wondered at, since we all more or less resent what we may think is unnecessary interference. There will, of course, be exceptional cases in which it will be necessary to take drastic action against incorrigibly bad tenants.

One must always keep in mind the past history and environment of these people, and remember how difficult it is to break away from a customary and long-standing routine, even under congenial circumstances. The majority are continually on the border line of poverty, coupled with illness and inherited bad habits and large families. A good deal of latitude should therefore be extended to them, provided they show a reasonable desire to improve. The more one ponders on the matter, the more difficult it becomes and the wider the ramifications of the problem. The evil took time to develop, and it will take time, patience, and perseverance to cure.

NOTE ON ERADICATION OF VERMIN FROM OLD HOUSES.

The appearance of the bed bug in some of the houses in the rehousing schemes led to the adoption of special measures to prevent the transference of these pests from the old, insanitary houses to the new ones, before the removal of the tenants. Dr. W. C. Gunn undertook a study of the habits of these insects and the best methods of eradicating them. The following is his preliminary report:—

The extermination of bugs in infested houses, especially in old and decayed properties such as are included in slum clearance schemes, is practically impossible, and it might be too readily concluded that the transference of the pest to the new rehousing areas cannot be avoided. The solution of this problem depends almost entirely on a sound practical knowledge of the life-history and habits of the bug. With this knowledge intelligently applied, anti-bug measures can be pursued with success, provided they are carried out persistently and thoroughly. A concise and interesting account of the insect is given in the British Museum publication, dated 1913, entitled "The Bed Bug, its Habits and Life-History, and How to Deal with it," by Cummings.

The insect, *Cimex lectularius*, prefers darkness, and must be looked for in all conceivable shelters affording darkness in an infested house. It seeks warmth, and is therefore to be found most abundantly where snugness exists. Its main food is blood, human blood preferably, and both male and female suck blood from their victims. It travels readily from house to house by all possible channels, and people in an apparently non-infested house may be attacked in the night-time by migrants from a neighbouring infested dwelling. After a good meal it does not feed again for a few days. It can live long periods, some months, without feeding.

These attributes, therefore, contribute towards very successful propagation when the insect gains a footing in a house, and also accounts for its persistence there.

Life-History.—The life-history includes the egg and five moulting or growing stages. There is no larval stage, the newly-hatched individual being almost a perfect imago, very active and capable of sucking human blood at once. These very small newly-hatched insects are apt to be overlooked.

Under conditions favourable for feeding and warmth, no matter what the season of the year may be, the various stages in development from the egg to the adult may be completed in approximately eight weeks. When the local conditions are unfavourable, due to lack of proper food and to low temperatures, each moulting stage is protracted to a month or so, and in this way the greater part of a year may be required for full development.

In slum properties favourable conditions exist throughout the year, and, therefore, propagation proceeds continuously and in the minimum time, so that it is as easy to find bugs in winter as in summer. Overheated, badly ventilated, and dark houses furnish the necessary breeding conditions in a very marked degree.

Egg.—The egg of the bug is an ovoid, pearly structure about 1 mm. long, with a lid at its slightly narrower end, which is pushed open when the young insect emerges. It is very readily seen with the naked eye, and is firmly fixed to the object upon which it is laid. Eggs may be formed in very large numbers on crumbling brickwork, along the margins of bed mattresses, in the open joints of picture frames, bed boards, and trestles, in fact wherever shelter and warmth exist, and where there is little disturbance from cleansing operations.

A mature bug, which may live for a period of six to eight months, lays about 200 eggs. When the young bug hatches out, usually in little over a week, it is fully qualified to travel rapidly and to suck blood. At this stage, and after some of the earlier moultings, it is pale in colour, becoming a little darker with each stage of growth.

In about eight days, provided the conditions are favourable, it moults, and before developing its new skin further growth takes place. This process is repeated four times more, and finally the bug assumes its familiar mahogany brown colour and reaches full size, which is about ¼ inch long and a little less than this in breadth.

Innumerable live bugs have been obtained from houses where two disinfections have been carried out by spraying a solution of Antifect (about ½ ounce to 1 gallon water).

In addition to the obvious difficulty of reaching these breeding retreats, which are all well away from the surface, disinfection is further obstructed by the overcrowding of apartments with heavy and bulky furniture.

Groups of tenants have been selected for the present observations, chiefly from Soho Street and Glenpark Street. In very few cases were no bugs found; in fact, infestation was extreme in most of the old houses. Where the disinfections have been closely supervised, only in one instance have bugs been found subsequently in the newly-occupied houses in the rehousing schemes.

The Inspector carrying out the disinfection must know the life-history of the bug. He must understand that aiming a spray with disinfectant, no matter how strong, at a bed recess and walls is futile. The bed with its boards and trestles must be taken out and thoroughly scrubbed with the disinfectant. The outsides of the mattresses have to be treated in a similar manner, and the solution forcibly sprayed into all cracks. Where the mattresses are torn, or covered with open meshed canvas, they cannot be disinfected by spraying, and should be destroyed. Infested mattresses should be destroyed and replaced, or taken to the disinfecting station on the last day of the tenant's occupancy of the old house and delivered to the new house after steam disinfection.

A whole forenoon is sometimes required for the thorough disinfection of *one* house so that the object of the procedure is defeated if the Inspector told off for the duty is instructed to do too many houses at one time. It is essential that the work be allotted to a man with a knowledge of the life-history and habits of the bug. An intelligent operator can demonstrate to the tenants the different stages of development of the insects while he is performing his task. Most of these people are interested in such instruction, and they can subsequently continue the attack more intelligently with disinfectant left with them during the period before they finally quit their old houses. Disinfection is sometimes delayed or rendered incomplete on account of illness, births, &c., occurring about the time of removal, but this difficulty may usually be overcome by suitable arrangement.

All these families should be followed up in their new houses within a reasonable period, say about four weeks. This gives sufficient time for them to observe whether they have transported bugs in the flitting or not. Where this has occurred, rigorous measures are necessary which may necessitate the stripping of the picture beading from the walls and removing the skirting boards, which are then treated by thorough scrubbing with soap and water and disinfectant.

Constant cleanliness will in the end completely eliminate the vermin from the new houses, although this may not prevent "trekking" during the night from an infested neighbouring house.

The "bug powder" provided by the caretaker of the rehousing schemes does not kill the bugs. It chases them from their shelters and hampers their movements considerably so that they can be fairly readily caught and killed.

GLASGOW (COWCADDENS, &c.) IMPROVEMENT SCHEME, 1923.

The following table shows the position as regards demolitions and rehousing of the families included in this scheme:—

	1 apt.	2 apts.	3 apts.	Total
Houses closed or unoccupied at commencement of Scheme—				
Number demolished prior to 31st Dec., 1926, ...	40	16	—	56
Houses in occupation at commencement of Scheme—				
Number closed and demolished prior to 31st Dec., 1926, ...	464	626	36	1,126
Number closed prior to 31st Dec., 1926, and demolished during 1927, ...	158	87	4	249
Number closed and demolished during 1927, ...	140	92	—	232
	762	805	40	1,607
Number closed prior to 31st Dec., 1926, and not demolished at 31st Dec., 1927, ...	25	1	2	28
Number closed during 1927, and not demolished at 31st Dec., 1927, ...	72	3	1	76
	97	4	3	104
Number still in occupation at 31st Dec., 1927, ...	84	7	—	91
Total Houses in Scheme, ...	983	832	43	1,858

Number of Families—

Transferred to Rehousing Schemes—		
Prior to 31st Dec., 1926, ...	1,194	
During 1927, ...	250	
		1,444
"Substituted" and transferred to Re-housing Schemes—		
Prior to 31st Dec., 1926, ...	82	
During 1927, ...	57	
		139
Removed voluntarily or on account of non-payment of rent, &c.—		
Prior to 31st Dec., 1926, ...	143	
During 1927, ...	28	
		171
Still to be provided for at 31st Dec., 1927, ...		91
Total in Scheme, ...		1,845

As shown above, only 195 houses in this scheme remain to be dealt with; 104 of these are closed and await demolition, while 91 are still occupied.

THE GLASGOW IMPROVEMENT SCHEME, 1926.

The following is a statement of the position at 31st December, 1927, with regard to the rehousing of families and the demolition of properties in this scheme:—

	1 apt.	2 apts.	3 apts.	4 apts.	Total.
Number of Houses represented to Local Authority, ...	490	508	51	3	*1,052
Number of Houses deleted from Scheme under special arrangement with owners, ...	28	18	—	—	46
	462	490	51	3	1,006
Number of Houses in Approved Scheme—					
Central Division, ...	60	94	11	—	165
Northern ,, ...	81	88	20	1	190
Eastern ,, ...	173	162	13	1	349
South-Eastern Division, ...	56	106	1	—	163
South-Western ,, ...	92	40	6	1	139
	462	490	51	3	1,006
Houses closed or unoccupied at commencement of Scheme—					
Number demolished during 1927, ...	—	1	—	—	1
Number still to be demolished at 31st Dec., 1927,	1	—	—	—	1
	1	1	—	—	2

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* The figure of 1,051 houses, shown in the Annual Report for 1926 did not include an unoccupied house of 2 apartments in the South-Eastern Division.

Houses in occupation at commencement of Scheme—

	1 apt.	2 apts.	3 apts.	4 apts.	Total.
Number closed and demolished prior to 31st Dec., 1927, ...	98	165	19	1	283
Number closed prior to 31st Dec., 1927, and not demolished at 31st Dec., 1927, ...	98	64	8	—	170
Number still in occupation at 31st Dec., 1927,	265	260	24	2	551
	461	489	51	3	1,004

Number of Families—

Transferred to Rehousing Schemes, ...	355
"Substituted" and transferred to Rehousing Schemes, ...	68
Removed voluntarily or on account of non-payment of rent, ...	60
Still to be provided for at 31st Dec., 1927, ...	573
Total in Scheme, ...	1,056

THE GLASGOW IMPROVEMENT SCHEME, 1927.

It was mentioned in the Report for last year that representation had been made to the Local Authority in respect of a fourth Slum Clearance Scheme. The Commissioner appointed by the Board of Health held a local inquiry into this scheme during the month of May, 1927, and the Board issued their formal scheme of approval on 22nd December, 1927.

The usual tables showing progress under this scheme will be incorporated in the Reports for subsequent years.

THE GLASGOW IMPROVEMENT SCHEME, 1928.

Towards the end of the year 1927, representations in respect of a fifth Slum Clearance Scheme were made to the Local Authority, covering in all 1,106 houses (638 of one apartment, 430 of two apartments, and 38 of three apartments and over, inhabited by 4,818 persons). It is understood that the Scottish Board of Health have appointed a Commissioner to deal with this scheme, and that the local inquiry will probably be held during the month of May, 1928.

SUMMARY OF SLUM CLEARANCE SCHEMES.

The following summary shows the position of the various Slum Clearance Schemes as at the end of 1927:—

	Number of Houses.			
	Demolished.	Closed.	Still Occupied.	Total Houses in Scheme.
Parliamentary Road Scheme,	121	—	—	121
1923 Scheme, ...	1,663	104	91	1,858
1926 Scheme, ...	284	171	551	1,006
1927 Scheme.	—	5	1,014	1,019
1928 Scheme, ...	—	7	1,099	1,106
Totals	2,068	287	2,755	5,110

HOUSING (SCOTLAND) ACT, 1925.

For the purpose of the Housing Acts 10,722 inspections were made during the year. The details as to inspections, notices issued, and defects found are as follows:—

Division	Inspections	Notices Issued	No. of Defects	No. of Houses Affected
Central, ...	1,290	92	282	146
Northern, ...	2,509	328	800	472
Eastern, ...	3,570	209	758	473
South-Eastern,	1,745	156	506	273
South-Western,	1,608	138	359	172
	10,722	923	2,705	1,536

Following on these inspections, 923 notices calling for repairs were issued in terms of Section 3 of the Housing (Scotland) Act, 1925, these notices covering 2,705 separate defects in 1,536 houses.

Failure to implement the statutory notices occurred in 73 instances, and in respect of these authority was obtained to remedy the defects complained of, and to charge the owner with the cost of repairs. The actual work of repair was carried out by the Master of Works on behalf of the department, and the following table summarises the cases dealt with according to divisions:—

Sent to Master of Works to execute Repairs.

Division	Notices Issued	No. of Defects	No. of Houses Affected
Central, ...	1	5	2
Northern, ...	24	81	48
Eastern, ...	—	—	—
South-Eastern, ...	—	—	—
South-Western, ...	48	96	46
	73	182	96

CLOSING ORDERS.

During the year the owners of various properties approached the Corporation to have certain dwelling-houses closed—in some cases voluntarily, and, in others, after the service of Notices under Section 3 of the 1925 Act, calling for repairs. As the houses could be regarded as uninhabitable, representations accordingly were made to the Committee on Housing, and Closing Orders became operative. The position, as at 31st December last, of the houses in the various properties is shown in the following statement:—

	Number of Houses.				Number of Families.		
	Total.	Demolished.	Closed.	Still in Occupation.	Transferred to Rehousing Scheme.	Substituted for transferred Families.	Removed elsewhere.
14-16 Union Street, ...	6	...	4	2	3	...	1
282 Buchanan Street (B.L.),	12	...	3	9	...	...	3
1320-1322 Gallowgate (F. and B.L.), ...	16	16	...	...	14	...	2
44-48 Reid St., Bridgeton,	5	5	...	...	4	...	1
715 Duke Street (B.L.), ...	10	...	2	8	...	...	2
77-83 Wallace Street, and 187-189 Centre Street, ...	13	...	13	—	10	2	1
1586-1590 Paisley Rd. West,	2	...	1	1	...	...	1
87 Blackburn Street, ...	9	...	...	9	...	...	...
	73	21	23	29	31	2	11

RENT AND MORTGAGE INTEREST RESTRICTIONS

ACTS, 1920 AND 1923.

Applications for Certificates by Tenants.—During the year 61 applications for certificates, in terms of Section 2 (2) of the principal Act, were received, compared with 49 for 1926. Of these, 9 were refused and 52 granted, 30 of the latter being in respect that the houses affected were not in all respects reasonably fit for human habitation, and 22 in respect that the houses were not in a reasonable state of repair.

The following summary shows the distribution of the applications throughout the several administrative divisions, and gives comparative figures for each year since the Act came into operation :—

Glasgow, 1927.—Applications for Certificates under Section 2 (2) of the Increase of Rent and Mortgage Interest (Restrictions) Act, 1920.

<table>
<tr><th rowspan="2">Division.</th><th rowspan="2">Refused.</th><th colspan="2">Granted in respect that Houses were</th></tr>
<tr><th>(1) Not in all respects reasonably fit for human habitation.</th><th>(2) Not in a reasonable state of repair.</th></tr>
<tr><td>Central, ...</td><td>1</td><td>6</td><td>1</td></tr>
<tr><td>Northern, ...</td><td>2</td><td>1</td><td>2</td></tr>
<tr><td>Eastern, ...</td><td>2</td><td>16</td><td>4</td></tr>
<tr><td>South-Eastern, ...</td><td>3</td><td>4</td><td>6</td></tr>
<tr><td>South-Western, ...</td><td>1</td><td>3</td><td>9</td></tr>
<tr><td>City, ...</td><td>9</td><td>30</td><td>22</td></tr>
<tr><td></td><td></td><td colspan="2">52</td></tr>
<tr><td>1920 (Oct.-Dec.),</td><td>147</td><td>263</td><td>459</td></tr>
<tr><td>1921</td><td>97</td><td>154</td><td>180</td></tr>
<tr><td>1922</td><td>10</td><td>2</td><td>8</td></tr>
<tr><td>1923</td><td>75</td><td>180</td><td>160</td></tr>
<tr><td>1924</td><td>21</td><td>83</td><td>69</td></tr>
<tr><td>1925</td><td>16</td><td>15</td><td>28</td></tr>
<tr><td>1926</td><td>9</td><td>28</td><td>12</td></tr>
<tr><td>1927</td><td>9</td><td>30</td><td>22</td></tr>
</table>

Applications for Reports by House Factors and Owners.—In Section 5 (2) of the 1923 Act it is provided that where a certificate has been issued by the Sanitary Authority in accordance with the provisions of Section 2 (2) of the principal Act of 1920, and the house factor or owner afterwards executes the repairs required to put the house into a reasonable state of repair, he shall be entitled to receive a report to that effect on making application to the Sanitary Authority, and on payment of a fee of one shilling.

Two such applications were received during the year, and the following summary shows how they were dealt with :—

Glasgow, 1927.—Applications for Reports by House Factors or Owners under Section 5 (2) Rent and Mortgage Interest Restrictions Act, 1923.

Division.	Applications Granted.	Refused.
Northern, ...	1	—
South-Western,	1	—
	—	—
	2	—
	2	
1926	2	—
1925	5	—
1924	29	1
1923	6	—

FARMED-OUT HOUSES.

In the reports for former years, reference was made to the high rates charged to the occupiers of farmed-out houses. This question was considered by the Committee on Health from time to time, and in 1925 they recommended that the Corporation obtain powers from Parliament to enable control to be exercised over the rents to be charged for farmed-out houses, such houses not being subject to the provisions of the Rent Restrictions Acts.

The power asked for was obtained from Parliament in the Glasgow Corporation Order Confirmation Act, 1927, Section 70 of which reads as follows :—

> "On any application for the renewal of registration of a farmed-out house in terms of the Glasgow Corporation Order, 1918, the Corporation may when granting the same prescribe the maximum charge that may be made in respect of the occupancy of such house, and the use of the fittings, furnishings and furniture therein, and the provisions of the said Glasgow Corporation Order, 1918, with respect to the giving of notices to persons interested, appeals to the Sheriff, and penalties shall extend and apply to the provisions of this Section."

Bye-laws for the keeping and well-ordering and the sanitation of farmed-out houses, made by the Corporation under the Glasgow Corporation Order, 1918, also provide for a minimum standard of furniture and furnishings. While farmed-out houses may be let either furnished or unfurnished, all such houses in the City at the present time are let as furnished houses. Comparison of the valuations of farmed-out tenements with tenements of similar character in the near neighbourhood, and careful valuation of the costs for depreciation and renewal of the furniture and furnishings, and after making a liberal allowance for management, suggested that the rents charged were something like 50 per cent. in excess of what was reasonable, as is shown by the following summary :—

	1-Apartment Houses	2-Apartment Houses
Average rents charged to sub-tenants, ...	11/-	15/-
Estimated value, after allowing for rent, occupiers' rates, depreciation, and renewal of furniture and furnishings and management, ...	7/5	9/10
Excess, ...	3/7	5/2

Having regard to this information, and acting under the powers conferred on them by Section 70 of the 1927 Act, the Local Authority have fixed the maximum charges for farmed-out houses as below :—

Accommodation	Furnished	Unfurnished
1 Apartment, ...	7/6	5/3
2 Apartments, ...	10/-	7/-
3 Apartments, ...	12/-	8/9

Certain keepers of farmed-out houses have given notice of appeal against these rates, so that they cannot at the moment be regarded as final.

SECTION XI.

BACTERIOLOGICAL DEPARTMENT

REPORT BY DR. R. M. BUCHANAN, CITY BACTERIOLOGIST.

The specimens received for investigation in 1927 from the medical practitioners of the City, from the Medical Officer of Health, and from neighbouring Local Authorities, have numbered 34,397, as compared with 31,086 in the previous year. This increase of 3,311 is in keeping with the increase of recent years, and reflects the steadily growing intimacy between the science of bacteriology and medical practice.

The extremely varied nature of the laboratory's work in its relation to the diagnosis, prevention, and treatment of diseases of bacterial origin and to public health administration, is indicated by the following lines of investigation into which it naturally falls:—(1) The early diagnosis of suspected cases of infectious disease in preventing the spread of communicable diseases and in facilitating administrative procedure; (2) the investigation of obscure cases, sources of infection, and epidemic outbreaks for the information of the Medical Officer of Health, medical practitioners, and consultants; (3) examination of the food, water, and milk supplies, and the water in the swimming ponds of the public baths; (4) biological tests essential for the diagnosis or detection of such diseases as tuberculosis, anthrax, infective jaundice, and plague, and for ascertaining the virulence or non-virulence of organisms isolated from diphtheria patients, carriers, and contacts, and from outbreaks of food poisoning; (5) miscellaneous examinations and investigations, including the confirmation or otherwise of different types of anæmia, the investigation of stomach and intestinal contents and the urine for evidence of suspected disease, the examination of hair and skin for parasites and of tumours for malignancy, the identification of insects and fungoid pests, and the testing of disinfectants for efficiency; and (6) research, in so far as the demands of rapidly increasing routine work permit.

ENTERICA GROUP.

The specimens of patients' blood examined for the diagnosis of suspected cases of enterica diseases (typhoid, paratyphoid A and paratyphoid B) amounted to 525 during the year. These specimens fall into two groups representing (1) those in which a small quantity of blood was collected in a capillary tube, and transmitted to the laboratory by the general practitioner for the diagnosis of typhoid only by the microscopic method, and (2) those in which a larger quantity of blood was submitted for the diagnosis of all the enterica diseases by the macroscopic method. In the former group, comprising 209 specimens, there were 9 positive typhoid reactions, and in the latter group, comprising 316 specimens, there were 14 positive for typhoid, 46 positive for paratyphoid B, and none for paratyphoid A.

As a contrast in the value of these two methods, it is to be noted that the paratyphoid B reactions were discovered in the specimens examined by the macroscopic method, a result that cannot be obtained satisfactorily with the microscope. It is obvious, therefore, that when serological diagnosis of the enterica diseases is desired, it is highly advisable that specimens of blood should be submitted in sufficient quantity (2—3 c.c.), to admit of the macroscopical method being utilised.

At the same time it should always be kept in view that examination by means of blood culture during the first week of illness gives results of the highest value, and in fact may be the only reliable method of diagnosis during this period.

The examination of excreta (urine and fæces) for the presence of the enterica group involved 962 specimens. Bacillus typhosus was isolated from the fæces in 10 instances, and from the urine in 3, while bacillus paratyphosus B was isolated from the fæces in 16 instances, and from the urine in 3. The examinations were made in suspected cases, contacts, and convalescents.

There is comprised in the above summary the following two special investigations—(1) an inquiry into the repeated occurrence of cases of typhoid in a mental hospital, and (2) work on an extensive outbreak of paratyphoid infection.

(1) Recurring Cases of Typhoid in a Mental Hospital.

Typhoid.—Owing to the repeated occurrence of cases of typhoid fever in Hawkhead Mental Hospital the assistance of the laboratory was called in the early part of the year to investigate the source of the trouble in co-operation with the Divisional Medical Officer and clinical staff of the hospital. The general lines of inquiry to be adopted were laid down at a conference held in the hospital. Attention having been focussed on certain wards as being the most likely to contain a carrier or carriers, the laboratory work commenced with a scrutiny of the blood reactions of the inmates of these wards, 93 in number, to ascertain which, if any, of them might furnish evidence of infection by the typhoid bacillus. Of 95 tests done upon these patients 4 gave a positive result, while two were doubtful. The next step was to examine the fæces and urine of the positives and the doubtfuls, including at the same time certain others who were selected by the clinical staff for some particular reason. Each patient selected was examined three times before being considered finally negative. There were 74 of these examinations made, dealing with 37 fæces and 37 urines. The typhoid bacillus was found in two specimens of fæces from two inmates. One of these two had given a very definite positive blood reaction. It was in her history that she had had an exacerbation of her condition of chronic bronchitis twelve months before. The other did not have her blood examined owing to her weak physical condition at the time. In the light of the results obtained it appeared to the hospital Superintendent that the whole problem of the occurrence of the cases could be satisfactorily explained and dealt with.

(2) Outbreak of Paratyphoid Infection.

In relation to the large series of illnesses that occurred in the Possilpark district, commencing in August, and which were traceable to a milk supply, the laboratory dealt with a large number of specimens submitted by officers of the Health Department, by practitioners of the area concerned, and by the County Medical Officer of Dunbarton. In the case of persons who may be thought to have been infected by the paratyphoid B bacillus about eight days before being seen by the medical officer—the causative organism of this epidemic being B paratyphosus B—serological examination of the blood may be expected to provide the most rapid diagnosis. Accordingly, as covering the whole period of investigation, 70 specimens of blood from 70 persons underwent examination. These are exclusive of 18 specimens submitted from Ruchill Hospital for confirmatory diagnosis. Of these 70 tests, 39 gave a reaction definitely indicating infection by bacillus paratyphosus B, and among these positive reactions 5 were from one of the farms which supplied the milk. These 5 specimens from the farm differed much in the intensity of their reactions as seen in the agglutination tests. Two of them may be described as weak but quite definite, one as of medium intensity, while two gave strong reactions, and indeed were indicative of recent infection. These last two differed in no way from the strong reactions met with among patients in the Possilpark area.

With the assistance of the information derived from the blood examinations an investigation was carried out as to the infectivity of patients and of contacts. This involved the examination of a large number of specimens of excreta—fæces and urine—which number is to be regarded in the light of the necessity of having "repeat" examinations in many cases. For the Health Department and City practitioners 115 specimens of fæces and 112 specimens of urine were examined. Only 2 of the urines yielded the causative organism, and from these it had disappeared at the second examination. From 9 specimens of fæces derived from 5 patients paratyphosus B was cultivated. One of these patients never failed to yield the organism in his stools at any examination and ultimately became a carrier.

With regard to the two farms concerned the examinations were done for the Medical Officer of Health of Dunbartonshire as already noted. Fourteen people resided, or were employed on these farms, and the excreta (fæces and urine) of each of them were very thoroughly examined on three separate occasions, entailing 84 examinations in all, 42 of fæces, and an equal number of urines. The organism was not recovered from any of these specimens.

Two fatal cases occurred in the epidemic, and one, a boy of about 5 years, came to necropsy at Ruchill Hospital. The intestinal and other lesions were typical of those produced by bacillus paratyphosus B, and this organism was recovered by Dr. Wiseman by culture from spleen, gall-bladder, and mesenteric glands.

From the beginning of the epidemic the evidence was very striking that the residence of this particular strain of the paratyphoid bacillus in the human body was extraordinarily transitory in nearly all the cases.

DIPHTHERIA.

During 1927 there has been a considerable increase in the number of throat swabs sent in for the diagnosis of diphtheria, there being 8,443, as against 6,659 in 1926. A positive result was obtained in 1,910 instances, or 22 per cent., compared with 16 per cent. in 1926.

Contacts.—There was a corresponding increase in the number of swabs submitted from persons in contact with cases of diphtheria. During the year, 2,790 swabs have been examined, with positive result in 311 cases, or 11 per cent. In 1926 there were 2,177 contact swabs examined, with positive result in 8·4 per cent. Of the contact swabs received during 1927, 590 were from schools in the City where cases of diphtheria had occurred. Of these, 70, or 8·4 per cent., showed the presence of the diphtheria bacillus, *Virulence.* — Virulence tests were done in 165 cases with bacilli isolated from nasal swabs, contacts, and convalescent cases. In 67 of these, or 40 per cent., the organism was shown to be virulent.

Pre-admission Examinations.—In order to avoid as far as possible the introduction of diphtheria to the Corporation Country Homes, 194 pre-admission throat swabs were examined for the presence of the bacillus, and it was found that as many as 27, or 13 per cent., of this number were positive.

OPHTHALMIA NEONATORUM.

During the year 738 specimens of exudate from the eyes of suspected cases of ophthalmia neonatorum were examined with the following results: —

Specimens from	Number	Positive
Medical Practitioners, ...	5	—
Medical Officer of Health, ...	733	93

These figures do not represent the actual numbers treated, as in many of the cases several examinations were made. In the previous year the examinations numbered 762.

VENEREAL DISEASES.

Wassermann Reaction.—The Wassermann reaction has become established as an essential part of the present scheme for the control of venereal disease. It maintains its position as a valuable aid in diagnosis and in estimating the efficiency of treatment. At the same time the test for the reaction is so elaborate and complicated, and requires so many variable reagents, that a simpler test is being assiduously sought for and investigated in most laboratories. The so-called flocculation tests of Sachs-Georgi, Meinicke, Vernes, and Kahn have been introduced as a result of these investigations. These tests, it may be said, involve less time and material, but cannot claim superiority over the Wassermann test, which, by its general reliability, retains a foremost place. Various modifications in the technique of the test have been introduced from time to time, but none has been found more suitable for dealing with a large number of specimens than Harrison's large volume method, which has been employed in this laboratory since 1921.

During the year 10,165 specimens were subjected to the Wassermann test, comprising 10,040 specimens of blood and 125 specimens of cerebro-spinal fluid. Of the total number, 3,200 were duplicates, that is, from patients under treatment.

The sources of the specimens were as follows:—

1,612 were received from City Practitioners.
5,265 were received from Institutions.
2,273 were received from Public Health Department.
1,015 were received from Local Authorities under special agreement.

The percentage positive rate for specimens sent in for diagnosis was 20·8, while that for specimens sent from cases undergoing treatment was 54·0.

It may be stated for comparison that the specimens examined in 1926 numbered 9,748, and that the corresponding positive rates were 22·1 per cent. and 52·95 per cent.

In the case of 70 of the specimens of blood submitted, the result of the Wassermann test could not be reported owing to the technical difficulties connected with hæmolysis (17), anticomplementary action (19), and insufficient serum (34).

Microscopical Examinations for Gonococcus.—During the year 1,115 specimens from cases, other than ophthalmia neonatorum, were examined for the gonococcus.

Of these—
659 were from City Practitioners.
28 were from Institutions.
420 were from Public Health Department.
8 were from Local Authorities.

The positive percentage of specimens taken for diagnosis was 24·8, and from patients undergoing treatment 28·6.

Microscopical Examinations for Spirochæta pallida.—Specimens from lesions in suspected cases numbered 12. Of those 4 were positive.

ANTHRAX.

At the beginning of the year the investigation into the shaving brushes of the type implicated in the fatal case of anthrax that occurred in August, 1926, was completed. Forty-two shaving brushes were examined in January, and gave negative results.

Three samples of food-stuffs for cattle came under test for anthrax infection, and were certified negative.

Forming a link with previous examinations of goatskin thongs (used as binding for orange boxes), one lot of 16 thongs was examined in the first quarter of the year. Four of these thongs were used in one test, making 4 tests, of which 2 yielded the anthrax bacillus. Regular examinations of such thongs were again resumed in December, when 16 thongs were submitted, there being again 4 tests, of which 1 gave a positive result.

PLAGUE.

No case of human plague has occurred in Glasgow since 1911, when a seaman on board a ship in the harbour succumbed to the disease, and no infected rats have been discovered since 1902. The rat being the main means of the spread of the disease through the agency of fleas which infest it, all the rats brought to the laboratory from ships and docks and also from the City have been carefully scrutinised with negative results.

During the year 171 rats were submitted for examination, and of this number 47 were Mus decumanus, 88 Mus rattus, and 36 Mus alexandrinus. The relative proportion of males to females was about 10 to 7.

INFECTIVE JAUNDICE.

There has been no case of infective jaundice detected during the year. The rat being regarded as a transmitter of the disease as well as a sufferer therefrom has been under constant inspection. All the rats brought to the laboratory (171) were accordingly examined irrespective of species and source, for the infective agent (Leptospira icterohæmorrhagiæ), but no trace of the organism was found. While the rat would seem to be the chief transmitter of the disease, the possibility of the carriage of infection by human ambulatory cases led to the examination of one case of jaundice, but with negative result.

FOOD POISONING AND DYSENTERY.

Apart from the Possilpark outbreak there has been no epidemic due either to food infection or to dysentery. There have been sporadic cases of bacillary dysentery and an occasional amœbic case. Of the 59 specimens examined in connection with possible food contamination, 42 were materials from patients and 17 were samples of food-stuffs. The majority of the latter were of animal origin, such as cooked pork, meats, shrimps, &c. None of the food-stuffs yielded any pathogenic organisms. The occurrence of food poisoning bacilli of the Salmonella group was determined in three unconnected cases, viz. (1) a patient in Belvidere Hospital from whose vomitus and fæces the organism was cultivated, (2) a patient in Stobhill Hospital from whose blood the organism had been isolated in the laboratory there, and upon which organism work was done in this laboratory, and (3) a fatal case (a man of 72 years), in the Eastern District Hospital whose fæces yielded the organism. The last-mentioned patient attributed his illness to the consumption of sausages, but nothing to substantiate this eventuated from the inquiries made.

THE MILK SUPPLY.

I.—In Relation to Bovine Tuberculosis.

1. *Milk from Town and Country Cows.*—During the year 1927 the veterinary surgeon submitted 439 samples of milk from cows with disease of the udder. Three duplicate specimens were also examined. All the samples were examined by microscopical and biological methods with the following results:—

	Samples.	Tuberculous.	Percentage Tuberculous.
Town Cows, ...	431	3	0·7
Country Cows, ...	8	—	—
Duplicates, ...	3	—	—

2. *City Milk Supply.*—From the City's milk supply 202 samples of milk were examined during the year. The specimens were obtained by the milk and dairy inspectors at railway stations, and on arrival after road transport at consignees' premises. The results of the examinations were as follows:—

Samples.	Tuberculous.	Percentage Tuberculous.
202	4	2

3. *Hospital Milk Supply.* — During the year 1927, 234 samples were examined from the various sources of supply of milk for the City hospitals. None of the specimens examined proved tuberculous. All the hospital milk is now obtained from tuberculin tested (T.T.) herds.

SUMMARY OF RESULTS.

Source.	Samples.	Tuberculous.
Town Cows with Disease of the Udder, ...	434	3
Country Cows with Disease of the Udder, ...	8	—
City Milk Supply—		
From Railway Stations and Road Transport,	202	4
Hospital Milk Supply, ...	234	—
	878	7

Other Local Authorities.—From outside Local Authorities 126 samples were received for microscopical and biological examinations. The following results were obtained:—

Samples.	Tuberculous.	Percentage Tuberculous.
126	12	9·5

Acid-fast Bacilli. — The presence in milk of the acid-fast bacillus of bovine tuberculosis is traceable in most instances to an animal in the herd suffering from tuberculosis of the udder, but the finding of the bacillus and its identification is seldom possible by means of the microscope and requires animal inoculation for its detection. During the year 27 samples of milk showed acid-fast bacilli, some of which were indistinguishable microscopically from the true tubercle bacillus, and all of which were proved by inoculation to be non-pathogenic. In view of this inadequacy of the microscope for the detection of Bacillus tuberculosis in milk, the inoculation test remains the only procedure upon which reliance can be placed.

During the year 1926 acid-fast bacilli were observed in 16 milk samples, only two of which proved to be tuberculous.

II.—IN RELATION TO BACTERIAL CONTENT.

City Milk.—Milks coming into the City, and sampled at the railway and road transport stations, are examined for bacterial content. This year 203 samples were examined as against 204 during 1926. The following table presents the results obtained in 1926 and 1927 :—

	Number examined	Samples below maximum of Certified Milk (30,000 per c.c.)	Samples below maximum of Grade A Milk (200,000 per c.c.)	Samples above 200,000 per c.c.
1927, - -	203	55 (27°/o)	78 (38°/o)	70 (34°/o)
1926, - -	204	64 (31°/o)	84 (41°/o)	56 (27°/o)

Hospital Milk.—The milk supply to the City hospitals represents the mixed morning and evening product until June. Thereafter it was brought to three hospitals under the designation of Grade A (T.T.), and to two hospitals under the designation of Certified Milk. The bacterial content was determined monthly till June, and thereafter fortnightly. In July and August the count was found to be exceptionally high, and if included in the yearly average would convey an erroneous impression. Eliminating the July and August counts, the averages for the other ten months of the year were as follows :—

Grade A (TT)			Certified	
Hospital, No. 1	No. 2	No. 3	No. 4	No. 5
82,776	68,966	46,794	17,020	13,767

It will be observed that these average counts are well under the required maximum pertaining to Grade A (T.T.) and Certified Milk (namely 200,000 per c.c. and 30,000 per c.c. respectively).

Designated Milk.—The designated milks examined for the Health Department during 1927 numbered 205, an increase of 51 on those sampled in 1926. It was found that 189 were within the maximum count allowed, while 16 exceeded it, as the following table shows :—

	Samples	Within maximum count	Over maximum count
Certified Milk, - -	53	49	4
Grade A Pasteurised, -	14	11	3
Pasteurised, - - -	25	23	2
Grade A, - - -	16	13	3
Grade A (T.T.), - -	97	93	4
	205	189	16
	..	92°/o	8°/o

PASTEURISED MILK AND THERMOPHILIC NON-SPORING BACTERIA.

In certain pasteurised milks examined it is to be noted that non-sporing bacteria were found in the test cultures in great number in the form of small pin-point colonies. The organisms forming the colonies were either small cocco-bacilli or streptococci, and were actually favoured in their growth and multiplication by the comparatively high temperature of pasteurisation. No pathological significance has been found to attach to these thermophilic bacteria, and their occasional presence has not yet received definite explanation.

MICROSCOPICAL EXAMINATION OF TISSUES.

Tissues to the number of 19 were sent for microscopical examination during the year 1927.

Diagnosis as to malignancy was desired in 11 tumours, as to the presence or absence of B. tuberculosis in 2 specimens, bacillus paratyphosus B in 3 specimens, and spirochæta pallida in 3 specimens.

The specimens were submitted by general practitioners, City hospitals, and the Health Department.

It may also be stated that sarcomatous and fibromatous tumours in dogs (4) were investigated, and that a condition resembling Johne's disease was discovered in the tongue of a cat.

FUNGOID DISEASES OF FRUIT.

The loss resulting from the discoloration and destruction of fruit by different species of fungi, and manifested by diseased conditions known as blight, rot, spot, scab, rust, mildew, or mould, is not fully recognised, and is often under-estimated. From time to time samples of fruit consignments showing destructive taint have been submitted by the Medical Officer of Health for examination in the laboratory.

"Bitter Rot" in Apples.—A consignment of apples (74 bags) was found to be affected with the disease known as "Bitter Rot," due to the growth in the fruit of a fungus (Glomerella rufomaculans). The apples were more or less shrunken and wrinkled,

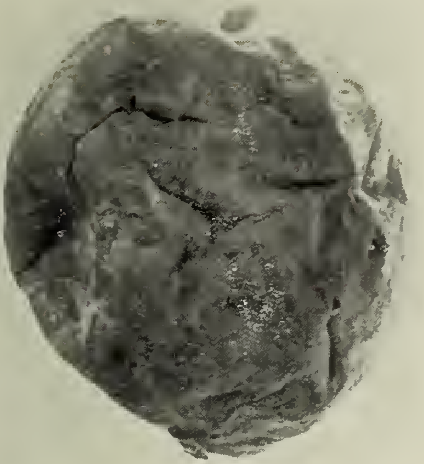

FIG. 1.—Apple showing "Bitter Rot."

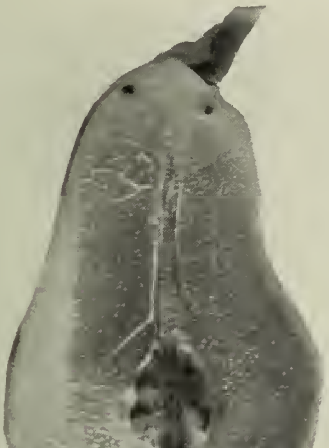

FIG. 2.—Pear showing "Brown Heart."

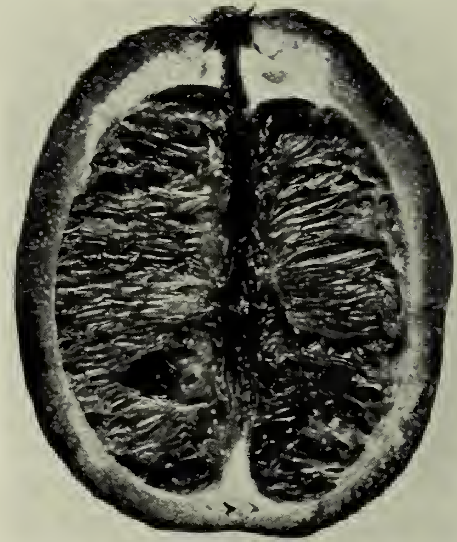

Fig. 3.—"Sooty Mould." Orange I in median section showing brown discoloration of the rind, blackening of the core and shrinkage of the pulp due to the fungus Meliola camelliæ.

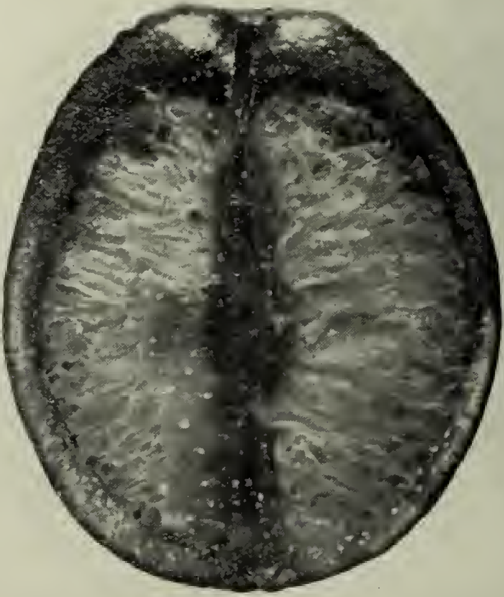

Fig. 4.—"Sooty Mould." Orange II (more advanced) in median section showing the black discoloration of the rind and core and its extension to the pulp.

and showed numerous circular depressions varying in size and colour forming centres of rot (Fig. 1). This disease primarily affects the tree, and from the twigs and young branches the spores of the fungus are carried to the fruit by various agencies such as rain, wind, insects.

"*Brownheart*" *in Pears*.—In another instance a consignment of pears exhibited brown discoloration and softening ("Brownheart") (Fig. 2) from development of a fungus (a species of Sclerotinia) as the result of package in air-tight receptacles in which the oxygen was used up.

"*Sooty Mould*" *in Oranges*.—Again, oranges taken from a recent consignment presented a sooty black decay not previously met with here. Only one or two oranges in each of the cases were found to be affected, while all the others were apparently sound. Two samples showing different degrees of involvement were selected for examination, and the findings are contained in the following report to the Medical Officer of Health on 13th December, 1927, which describes the physical condition of the oranges and the nature of the fungus with which they are affected.

PHYSICAL CONDITION.

Orange I is of a dull greenish-yellow colour and soft. Near the blossom end there is an irregular wavy line of blackening of the surface for two-thirds of the circumference, as if in the track of an insect. Associated with this blackening a dull violet staining spreads for some distance on either side of it. In a small area a number of minute black sporing bodies of the nature of pycnidia are noted under the hand lens. The rind on section appears almost through and through pale brown and softened. The pedicel depression is sooty black, and this blackening is found, on bisecting the orange, to extend inwards in the woody stem, and to involve the core in the greater part of its extent (Fig. 3). The pulp is lemon yellow throughout, and though moist is deficient in juice, and partially separated from the rind by contraction. It shows a trace of blackening in contact with the rind at the upper end of the fruit.

Orange II has a greenish-black appearance, blackening being almost confluent in the lower half of the fruit, and becoming more and more discrete by limitation to rounded foci towards the upper end. A circular area at the upper end is almost free from discoloration. The rind on section presents intense blackening (Fig. 4). The blackening involves the whole thickness of the rind from the pedicel end, but diminishes in amount towards mid-circumference. The free surface of the rind is sharply defined by a narrow blackened line all round. The rest of the rind shows the same brown softening as in orange I, though not so advanced. The core is also blackened in the greater part of its extent. The pulp is free from discoloration, except at its junction with the rind and the core, and is otherwise in the same condition as that of orange I.

THE FUNGUS.

The fungus is regarded as being associated with certain insects which exude a " honey dew " upon which it subsists. The mycelium consists of somewhat large branched septate threads, which darken with age to a deep brown. While it is stated by several authorities (Stevens, Duggar, Harshberger) that the fungus lives purely as a superficial saprophyte without penetrating the tissues, the oranges submitted manifest penetrating growth in the core and rind, and to some extent also in the pulp (Fig. 5).

As the oranges differ so much in appearance (*i.e.*, in the degree of blackening) the microscopical and cultural examinations of each orange are dealt with separately.

MICROSCOPICAL EXAMINATION.

In orange I the mycelium is growing on the free surface, with the eccentric distribution suggestive of the track of an insect, and forms a layer closely adherent to the epidermis, though easily removable. The woody pedicel and the core are infiltrated by the hyphæ, and intensely blackened thereby. The rind, although not blackened, reveals the fungus throughout its whole thickness. The pulp also reveals some invasion by the fungus at the upper end of the fruit.

In orange II the fungus has blackened the pedicel, the core, and the rind. The rind is also invaded by the fungus in its whole thickness, but much more extensively than in orange I. It is very abundant in the deeper part of the rind, and exhibits evidence of growth towards the free surface under which it has accumulated, and assumed a dark brown colour. By its own dark brown colour, and by its staining of the sub-epithelial cells, the black coloration of the orange is produced in this instance from within (Fig. 6). In this orange the pulp is invaded where it is in contact with the core and the rind, and is in consequence slightly darkened.

CULTURAL EXAMINATION.

The fungus has been obtained in pure culture in which it shows the same closely septate hyphæ and rapid, wide-spreading growth. (Figs. 7 and 8.)*

The oranges thus present the condition known as " Sooty Mould," due to the fungus Meliola camelliæ. This fungus is widely distributed, and particularly injurious to the orange in those districts where citrus fruits are grown. It also affects the leaves and twigs of the plants growing thereon superficially.

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* I am indebted to my assistant, Mr. William R. Ogilvie, for all the photographs.

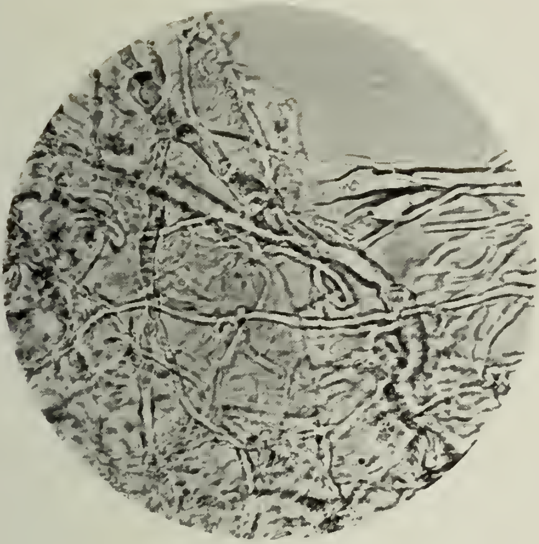

Fig. 5.—The Fungus (Meliola camelliæ) in orange rind. × 240.

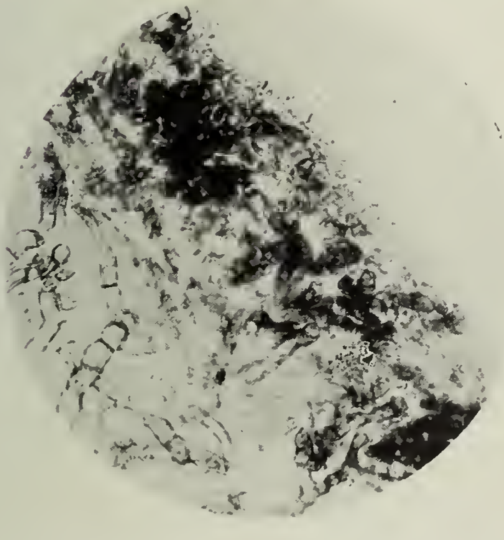

Fig. 6.—The fungus (Meliola camelliæ) under epidermis of orange where it is assuming a dark brown colour. × 250.

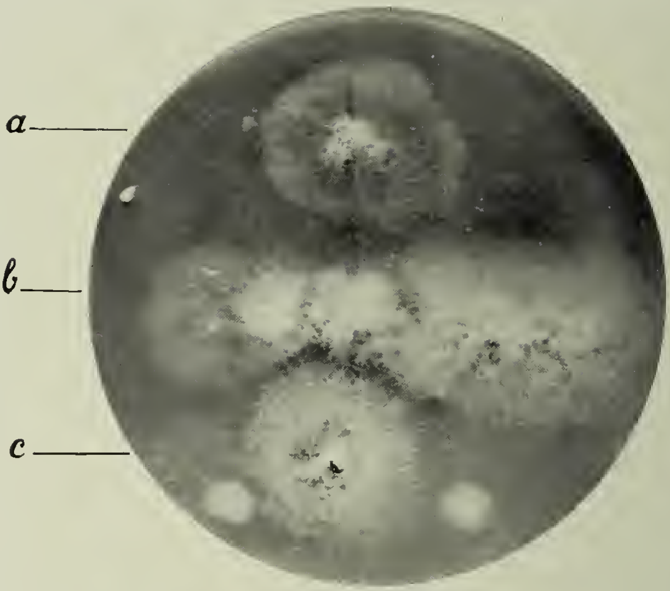

FIG. 7.—Meliola camelliæ in artificial culture on agar jelly in petri plate. The medium was inoculated with material from the free surface (*a*) the juice (*b*) and the black pedicel (*c*) of orange. (Nat. size.).

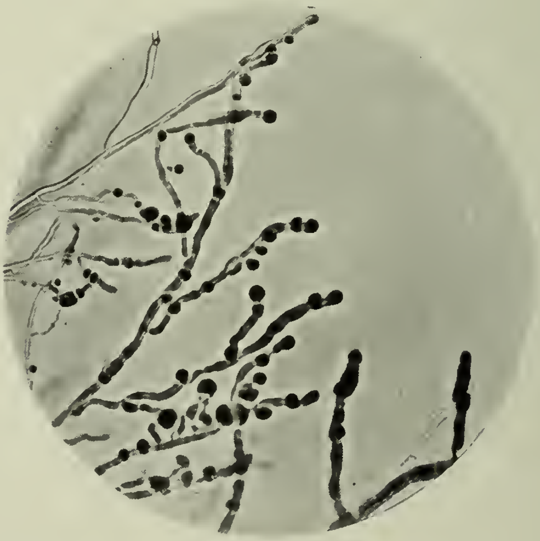

FIG 8.—The fungus (Meliola camelliæ) in culture from orange. Growing edge of colony. × 125.

INSECT PESTS (NON-VERMINOUS) FROM DWELLINGS.

The insects (apart from vermin) which may be found in dwelling-houses, warehouses, and factories in the City, and which may be regarded as pests, are very varied. As many as 45 species characterised as pests have been submitted for identification since the laboratory was instituted. They have comprised beetles, moths, flies, cockroaches, crickets, earwigs, ants, booklice, mites, springtails, and sirex. It is remarkable that the smallest of all these insects, the mites, although nearly always unconnected with the production of harmful effects as regards health, occasionally produce a state of mental disquietude in the housewife, which results in her health being affected, owing to the dread of what may be thought of her by her neighbours, and to the fear of carrying the pest to other houses.

Serious destruction has frequently been observed in flour, peas, skins, hides, and corks in stores, and in clothing, furs, and furniture in dwelling-houses. The destructive effects have been due to the larvæ of the beetles and moths, the adult insects producing no ill-effects, and being pests only in virtue of their numbers.

In the course of 1927 the specimens brought to the laboratory have numbered 14, and have included 9 species, comprising beetles (2), cockroaches (2), flies, ants, woodlice, booklice, and mites.

VISITORS TO THE LABORATORY.

In the course of the year the laboratory has been visited on numerous occasions by medical practitioners of the City and of the outside areas. These visits are always welcome and mutually helpful. Visitors from abroad, of whom there have been several, have been much interested in the facilities provided for the examination of physicians' specimens and in the methods adopted for reporting results.

Opportunity is freely given to societies and organisations, medical and lay, to see the laboratories and to gain some idea of the scope of work undertaken.

SUMMARY OF EXAMINATIONS FOR THE YEAR 1927.

The examinations performed in the Bacteriological Laboratory during 1927 numbered 34,397, as compared with 31,086 in the previous year. The sources of the materials submitted were as follows:—

	Medical Practitioners	Health Department.
Tuberculosis (Human)—		
Microscopical Examination—		
Sputum, ...	2,721	1,589
Urine, ...	103	30
Cerebro-Spinal fluid, ...	14	—
Pleural fluid, ...	2	3
Pus from gland and bone abscesses, ...	9	21
Swab, ...	1	1
Fæces, ...	—	2
Biological Test, ...	138	62

Tuberculosis (Bovine)—		
Milk—		
Microscopical Examinations, ...	156	882
Biological Test—		
Town Cows, ...	—	220
Country Cows, ...	—	8
Herds supplying Hospitals, ...	—	211
Duplicate Samples for Confirmation, ...	—	4
City Milk Supply—Station Samples, ...	—	203
Samples from Hospitals Milk Supplies, ...	—	250
Typhoid and Paratyphoid Fever—		
Blood (agglutinations), ...	645	164
Urine, fæces (cultures), ...	191	771
Gland, Liver and Spleen, ...	—	3
Skimmed Milk, ...	—	1
Dysentery—		
Fæces, ...	38	38
Urine, ...	2	1
Blood, ...	1	1
Diphtheria—		
Throat Swabs from suspected cases, ...	8,443	685
Throat Swabs from contacts, ...	—	2,521
Virulence Tests, ...	96	66
Vincent's Angina—		
Throat Swabs from suspected cases, ...	51	2
Cerebro-Spinal Fever—		
Cerebro-Spinal fluid, ...	3	—
Post-nasal Swabs, ...	5	16
Scarlet Fever—		
Cultural Tests for Hæmolytic Streptococci, ...	12	10
Ophthalmia Neonatorum, ...	5	733
Venereal Diseases—		
Wassermann Test, ...	7,892*	2,273
Gonococcal Infections other than Ophthalmia Neonatorum, ...	694	418
Spirochæta pallida, ...	10	3
Specimens taken in Laboratory, ...	26	
Anthrax—		
Goatskin bindings of orange boxes, ...	—	32
Shaving brushes, ...	—	42
Beet pulp, 1; oilcake, 2; fluid, 2; smears, 2; swab, 1,	5	3
Plague—		
Examination of rats from Ships, Docks, and City, ...	—	171
Typhus—		
Serum Test (Weil-Felix), ...	3	—
Do. (Wassermann), ...	—	—
Infective Jaundice—		
Material from Patients, ...	—	2
Examination of rats from various sources in the City, ...	—	171

	Medical Practitioners.	Health Departmen	
Malaria—			
Blood, ...	3	—	
Bacterial Diagnosis (various Diseases)—			
Sputum, 5; pus, 10; fæces, 26; miscellaneous, 246,	150	137	
Food Poisoning—			
Examination of Food-Stuffs, 17; materials from patients, 42, ...	8	51	
Water—			
Bacterial Content	13	6	
Milk (Bacterial Content)—			
Under Milk (Special Designations) Order, ...	19	205	
City Milk Supply, ...	—	203	
Hospitals Milk Supply, ...	—	250	
Other Local Authorities, ...	42	—	
Ice Cream—			
Bacterial Count, ...	—	6	
Bacterial Diagnosis, ...	—	7	
Blood—			
Cytological examination by smears, ...	—	2	
Blood Count, ...	3	108	
Bacterial Content by Culture, ...	—	1	
Pernicious Anæmia, ...	6	1	
Histological Examination—			
Tumours for Malignancy, ...	3	8	
Tissue for B. tuberculosis, ...	1	1	
Spleen, Liver, and Gland for B. paratyphosus B, ...	—	3	
Liver and Spleen for S. pallida, ...	—	3	
Spermatozoa, ...	1	—	
Fungoid Diseases—			
Ringworm, 6; Dry rot, 1; Bitter rot (apple), 1; Brown heart (pear), 1; Sooty Mould (orange), 1,	—	10	
Chemical Examinations—			
Urine, ...	5	18	
Preparation of Vaccines, ...	15	2	
Animal Parasites—			
Acarus scabiei, ...	—	1	
Insect Pests from Dwelling-houses and Workshops, ...	—	14	
	21,535	12,654	
			34,189
Water Department—			
Tap Water, ...	24		
Reservoirs, ...	52		
			76
Baths Department—			
Water from Swimming Ponds, ...			132
			34,397

This number includes 6,877 from the City and 1,015 from outside Authorities.

R. M. BUCHANAN.

SECTION XII.

PART I.

FOOD POISONING.

During the year a considerable number of occurrences were inquired into, in which such articles as tea, scones, jam, lobster, shrimps, tinned fruit, meat, &c., were alleged to be the cause of severe gastric and abdominal pains, diarrhœa, and other symptoms suggestive of food poisoning. Information as to these occurrences usually comes *via* the police, or through the columns of the daily press. In most of these episodes the evidence, which usually included bacteriological and chemical examination of the suspected food-stuff, did not reveal anything definite.

During August several members of a family in the south-eastern district of the City became ill, after eating tinned apricots. Examination of three tins taken from the shop from which the family had obtained the supply showed the presence of an excessive quantity of tin and a small amount of lead, due to internal corrosion. It was found that the tins had been in stock for some years. This led to a general inquiry throughout the City, when it was discovered that in only two other instances were quantities of metallic substances present in undue excess. The matter is referred to in the notes of the Senior Food Inspector which follow. The occasional presence of tin, &c., in canned food was made the subject of report to the Health Committee and to the Board of Health. It was suggested that the date of the canning should be indicated on the label, but the Board intimated that they did not at present feel justified in issuing regulations for the purpose.

In December information regarding symptoms of poisoning in three young children, alleged to be due to the eating of apples, was inquired into. Examination of the apples showed no trace of poisoning, but traces of aconite were found in the stomach contents of the patients. It appeared on inquiry that they had been given a dose of cascara from a bottle formerly used to contain A.B.C. liniment, which the mother had received from one of the infirmaries for outward application.

The following notes describe the operations, &c., by the Food and Drug Inspectors during the year:—

OPERATIONS UNDER THE SALE OF FOOD AND DRUGS ACTS, THE MILK AND DAIRIES (SCOTLAND) ACT, &c.

The Sale of Food and Drugs Acts.—For the purposes of these Acts 5,543 samples were examined, of which 4,132 were informal or test samples and 1,411 official or statutory samples; 266 of the former and 58 of the latter were deemed to be non-genuine. Proceedings were initiated in respect of 33 of the official or statutory samples adversely reported upon. In addition, there were two prosecutions for infringement of the provisions relating to dealing in margarine. The total fines and expenses imposed under these Acts amounted to £151 3s. Further details of operations are contained in subjoined abstract and tables and in the appendices.

The Sale of Food and Drugs Act, 1927.—This short measure, which is to be construed as one with the Sale of Food and Drugs Acts, 1875 to 1907, and contains provisions of far-reaching importance, became operative as from 12th April, 1927. It enacts that, where in any Regulations made under the Public Health (Regulations as to Food) Act, 1907, the composition of any article of food or drink is prescribed. or the addition thereto of any preservative or other ingredient is prohibited or restricted, any sale contrary thereto shall be deemed to be in contravention of Section 6 of the Sale of Food and Drugs Act, 1875.

Regulations embraced under the Act include the Public Health (Condensed Milk and Dried Milk) Regulations of 1923, and the Public Health (Preservatives, &c., in Food) Regulations, 1925 to 1927. The Act will greatly expedite and simplify procedure, and, at the same time, restore to traders the protection afforded in relation to the use of a warranty, which is not available as a defence where proceedings are taken under the regulations themselves.

ABSTRACT OF TOTAL SAMPLES EXAMINED DURING 1927.

	Informal		Statutory		Percentage Adulterated		Percentage of Samples taken in each Group to Total.	
Article	Taken	Non-Gen.	Taken	Non-Gen.	Inf.	Stat.	Inf.	Stat.
Milk and Cream, ...	2.367	135	918	29	5·7	3·2	57·3	65·1
Milk Products (Butter, Cheese, &c.), ...	724	23	138	5	3·2	3·6	17·5	9·8
Cereals. &c., ...	54	1	55	2	1·9	3·6	1·3	3·9
Spirituous Liquors,	214	11	37	2	5·1	5·4	5·2	2·6
Drugs.	295	13	41	2	4·4	4·9	7·1	2·9
Flavourings and Condiments, ...	79	—	52	—	—	—	1·9	3·7
Miscellaneous Foods,	399	83	170	18	20·1	10·6	9·7	12·0
Totals,	4,132	266	1,411	58	6·4	4·1	100·0	100·0

NOTE.—Includes samples dealt with under the Public Health (Preservatives. &c., in Food) Regulations, 1925 to 1927, in terms of the Sale of Food and Drugs Act, 1927.

Abstract of Informal and Statutory Samples of Sweet Milk Examined during 1927.

Informal				Month	Statutory			
Number Taken	Number Presumed Non-Genuine	Average Percentage Composition			Number Taken	Number Presumed Non-Genuine	Average Percentage Composition	
		Fat %	Non-Fat %				Fat %	Non-Fat %
190	20	3·44	8·79	January,	77	3	3·47	8·72
215	9	3·44	8·78	February,	75	4	3·34	8·73
215	11	3·49	8·79	March,	76	5	3·44	8·72
182	9	3·47	8·77	April,	83	2	3·46	8·68
175	11	3·47	8·70	May,	78	1	3·46	8·68
172	8	3·38	8·87	June,	74	1	3·34	8·87
106	6	3·50	8·82	July,	59	1	3·47	8·76
177	5	3·50	8·73	August,	77	1	3·54	8·75
160	4	3·59	8·78	September,	73	—	3·63	8·82
246	22	3·84	8·69	October,	76	5	3·80	8·71
211	15	3·69	8·83	November,	76	2	3·60	8·70
216	13	3·50	8·80	December,	74	1	3·58	8·73

Treatment of Flour.—The terms of reference to the Departmental Committee on Preservatives were extended in June, 1924, by the Minister of Health to include the treatment of flour with chemical substances. These chemical substances are added to flour in order to enhance its white appearance as well as its baking qualities, which, prior to the use of these substances, was dependent upon the natural "ageing" and the judicious blending of flours of various grades and strengths. Their use may be said to be largely the outcome of the present-day demand for very white bread.

The Committee's report on their investigations (dated 14th February, 1927) has now been issued. Their main conclusions are that, while not prepared to recommend the entire elimination of the use of bleaching agents and "improvers," so-called, they are of opinion that the use of these substances should be restricted to those least open to objection, *e.g.*, nitrogen peroxide and acid phosphates. They are further of opinion that it should be compulsory upon millers to inform their customers whether their flour has been chemically bleached or improved, and, if so, with what substances and their proportions.

Reference is also made to the recent development of a process in which, by exposure of flour to heat under definite control as to time and temperature, it is possible to utilize the flour itself as an "improver," and thus by physical means eliminate the use of chemical substances. An indication is given that it is along these lines that further progress should be sought.

The Disinfestation of Flour Mills.—On occasion samples of flour and oats examined (the most recent being barley and oat flours) have revealed the presence of the larvæ of the Mediterranean mill moth (*Ephestia kühniella*). This moth may be said to have been for years the bane of the milling industry and a serious pest when it is recognised that a single moth lays on an average 240 eggs, and there may be as many as four broods in a season.

Various methods have been devised for its eradication, such as—

(1) Fumigation with sulphur dioxide, so that, approximately, 5 per cent. of the gas is present;

(2) The application of heat, viz., the maintenance of an air temperature of at least 124° F. for several hours, and the subsequent use of the "blow" lamp for the destruction of larvæ deposited in cracks or crevices in floors and walls, and the more or less inaccessible parts of machines; and

(3) The use of hydrocyanic acid gas as a fumigant, the gas being forced from cylinders through pipe lines to the several floors, and delivered from nozzles in the form of an atomized mist spray.

This last method is of recent development, and has been applied to several mills in the City area in the course of the year. From reports there is every reason to expect that the results may be regarded as eminently satisfactory. The inherent risks, however, of reinfestation through the use of affected sacks obtained by farmers from sack-hiring agencies and railway companies must always be present, unless some method for the treatment of the sacks after each use is introduced. On its first application, although the mill was cleared of grain and flour, opportunity was taken to test the effects of the gas on an exposed sample of flour.

Sample A.—Control sample of flour warranted free from improvers or nitrites, taken before exposure to gas.

Sample B.—Sample submitted in a spread-out condition to the full action of the gas from 1 p.m. till mill was declared free at 5 p.m. on following day.

The Corporation Chemist subsequently reported that Sample B, received in air-tight glass container and immediately examined on receipt, showed the presence of a minute trace of hydrocyanic acid, in amount incapable of estimation quantitatively, but certainly considerably less than one part per million. Examined on the following day, no indication of the presence of hydrocyanic acid was obtainable.

In a note the Corporation Chemist states:—"There is thus no evidence of any appreciable absorption of gas by the flour, as the minute trace detected in the first test might possibly be due to the gas-contaminated air remaining between the particles of flour at the time the examination was made."

The Presence of Arsenic in certain Foodstuffs.—In connection with the examination of two samples of potted shrimps (from appearance and size more probably prawns) somewhat disconcerting results were obtained, the City Analyst reporting the presence in both of arsenic (expressed as arsenious oxide) in amounts equivalents to 12·5 parts and 50 parts per million respectively. Arsenic, it appears, is a natural constituent of certain shell fish and crustaceans, and the amount found in these samples was well within recorded limits.

In a paper, contributed by A. Chaston Chapman, F.I.C., F.R.S., to "The Analyst" for 1926 (page 548), the results of extensive investigations on the presence of arsenic (expressed as arsenious oxide) in marine crustaceans and shell fish are narrated. To quote only a few of the analytical results may suffice, and may possibly lead to a complete re-orientation of outlook as regards the presence and effects of arsenic in foodstuffs generally.

Mussels.—In six samples, representing an average of about two dozen specimens in each case, the parts per million (wet substance) ranged from 36 to 119.

Lobsters.—In three samples, boiled, the edible portions examined showed 36 to 40 parts per million.

Prawns.—In six samples, representing an average of about two dozen specimens in each case, the parts per million (wet substance) ranged from 36 to 174.

Mr. Chapman observes, "Having regard to the amounts of arsenic present in these shell fish and crustaceans, it is obvious that it cannot be present as arsenious oxide, or in a form having anything like the same toxic activity . . . but further experiments, both on the chemical and physiological sides, are in progress. . . . Whether the arsenic compound or compounds are possessed of a low order of toxicity, or whether they are even non-toxic—using the word 'toxic' in its ordinary sense—I cannot, of course, say. It seems not impossible, however, that the unpleasant consequences which occasionally follow the consumption of crustaceans and shell fish may not be unconnected with the presence of these compounds. As is so often the case, there may be marked individual idiosyncrasies, and, in addition, certain persons may have the power of breaking down the arsenic compound to a greater extent than others in the course of its passage through the organism. It is obvious that this aspect of the question will need a very considerable amount of investigation before anything more definite can be said about it."

The Presence of Metallic Tin in Canned Foods. — In connection with illness in a family symptomatic of irritant poisoning due to the consumption of canned apricots, subsequent examination of samples obtained from the dealer in question disclosed the presence of 5·6 and 8·8 grains of metallic tin in two samples examined, and, in consequence, the remaining stock was removed and destroyed. It was ascertained that the approximate date of canning of the goods was at least some three or four years previous, and that the stock in the interval had been overlooked.

A subsequent survey and inquiry as regards stocks of canned fruits generally, and analysis of contents where deemed warranted, did not disclose any like gross instances (with the exception of two small lots—peaches and pears—containing slightly over three grains). Nevertheless, the possibilities of less acute and unrecognised illnesses occurring must ever be present under existing conditions. Canned fruits, and in particular apricots and peaches, owing to their natural acidity, have for long been known to exercise a solvent action upon the tin-plate in which they are canned, varying in degree with the quality of the latter and the time that has elapsed from the date of canning.

Where discoloration and, ultimately, erosion occur in the interior of a can owing to inferior coating of tin, or where a trace of solder has found access in the processing, electrolysis leads to an increase in the solvent action. If in any canned food the quantity of tin found approximates to two grains per lb., it is invariably deemed to be potentially dangerous, and, therefore, unsound. This figure, however, is not found to be approached, where due care has been exercised in canning and processing, until a period of between one and two years has elapsed from the date of canning.

Affected unopened tins show none of the physical characteristics of ordinary unsoundness, and when opened the contents as a rule present a normal appearance, and are invariably found to be sterile on bacteriological examination, the presence of tin being only revealed on chemical analysis. Consumers should, however, be on their guard to see when they open a tin that the interior surface is free from discoloration in parts, or erosion.

Administratively, it would facilitate inspection and detection of suspected tins if canners were required in some way to denote the month and year of packing by means of some recognised mark or code.

The matter was under consideration by the Committee on Health, and it was agreed that representations should be made to the Scottish Board of Health to take such steps as may be required to provide that the date of canning of any foodstuffs is recorded on the container. The Board, in reply thereto, subsequently intimated that they had given the matter their careful consideration, but, on various grounds, did not feel justified at present in issuing regulations for this purpose.

Preservatives in Food.—The new Preservatives in Food Regulations may be said to be functioning fairly satisfactorily, and, during the period of grace recommended, practically all traders were found to have cleared their stocks of articles affected by the regulations. During the early period of the regulations, a policy of advice and guidance to those affected—as to notices to be exhibited and the provision of the regulations generally—was pursued, and meetings with this object held with trade associations. Some difficulty was at first experienced in securing due compliance with Article 5 by merchants furnishing supplies of SO_2 preservatives in liquid and powder form, and the deletion from directions-for-use labels affixed to receptacles of all reference to meat, &c., as would lead to its use contrary to the regulations, but this was ultimately secured. One particular class of trader, *i.e.*, the butcher, may be said to have proved somewhat recalcitrant, owing to his long and unrestricted use of the chemical substance colloquially known as "Madam Rachel," which is employed to maintain the "bloom" associated with mince. In the first batch of proceedings under the regulations and the Sale of Food and Drugs

Act, 1927, objections were taken to their competency in that—(1) the complaint, while averring the regulations, did not bear to be brought with the consent of the Scottish Board of Health, in terms of the basic statute empowering the making of such regulations; and (2) the penalties craved were not exigible thereunder. The Stipendiary Magistrate subsequently repelled the objections, and held that, while proceedings were under the Sale of Food and Drugs Acts, 1875 to 1927, the regulations nevertheless were rightly averred, and, in fact, were a necessary part of the complaint in that they set up the standard of quality to which regard must be had in terms of Section 6 of the Sale of Food and Drugs Act, 1875, and were thus outwith the purview of the Scottish Board of Health. If this view were correct, he added, it therefore followed that the further objection as to penalty likewise failed. Pleas of guilty were thereafter tendered, and, in view of these being the first cases under the 1927 Act, the Stipendiary Magistrate admonished the respondents.

Twelve prosecutions in all were taken during the year, and fines, amounting to £24, were imposed.

The real test of the regulations will probably arise during the current year as regards cream, to which they now apply as from 1st January, thus completing the periods of grace allowed for various articles of food, in terms of the Amending Regulations of 1926. It is satisfactory to note that no sample of milk or cream was found to contain colouring matter, nor was any proscribed colouring matter found in any other article of food.

Appended is table of samples examined *re* preservatives, &c. :—

Total Articles of Food Examined for the Presence of Preservative and the Nature and Amount Found during Year ending 31st December, 1927.

Nature of Article.	Number examined.	Number in which Preservative was found.	Nature of Preservative.	Parts per million.	
				Lowest.	Highest.
Apricots (Dried),	3	2	Sulphur Dioxide,	219	759
Barley, - -	19	2	,, ,,	44·8	176
Beer, - - -	3	3	,, ,,	35	56
Butter, - -	781	65	Boric Acid, -	0·02°/o	0·28°/o
Corn Flour, - -	17	2	Sulphur Dioxide,	26	30
Cream, - -	72	14	Boric Acid, -	0·05°/o	0·37°/o
Figs, - - -	3	1	Sulphur Dioxide,	19·2	—
Fruit Salad, -	4	4	,, ,,	183	1,058
Lemonade, -	4	2	,, ,,	9	10
Lime Juice Cordial,	9	1	Salicylic Acid, -	22	—
Mince, - -	148	111	Sulphur Dioxide,	8	5,616
Preserves, - -	14	1	,, ,,	38	—
Prunes, - -	6	2	,, ,,	27	96
Raisins. - -	16	4	,, ,,	12	32
Sausages, - -	65	61	,, ,,	16	1,907
Sausage Meat, -	2	2	,, ,,	204	1,184
Sauces, - -	12	1	Benzoic Acid, -	118	—

Condensed and Dried Milks.—Twenty-five samples of the former and nine of the latter were obtained and submitted for examination as to their conformity with the respective Regulations. Two samples of condensed milk were found to be slightly below the limits for milk solids. In the case of the dried milks, one was found to be 0·15 of a pint below declared equivalent, and in one the size of type used in the declaration was less than that prescribed. In each instance the attention of the manufacturer was drawn to the discrepancies.

As regards the type to be used and method of its display in connection with both of the above milks, particularly in relation to skimmed milks, amending regulations have been issued, but do not become operative till 1st September, 1928.

Milk (*Special Designations*) *Orders.*—The details of licences as at end of 1927, with comparative figures for the two previous years, are as undernoted :—

	1927	1926	1925
Certified—			
Producers, ...	1	1	—
Dealers, ...	34	25	19
Total Average Daily Sales (Gallons), ...	130	95	53
Grade "A" (Tuberculin Tested)—			
Producers, ...	—	—	—
Bottling Establishments, ...	4	2	2
Dealers, ...	220	137	10
Total Average Daily Sales (Gallons), ...	940	730	207
Grade "A"—			
Producers, ...	—	—	—
Bottling Establishment, ...	1	1	1
Dealers, ...	43	37	25
Total Average Daily Sales (Gallons), ...	*445	†425	‡350
Pasteurised—			
Pasteurising Establishments, ...	3	3	3
Dealers, ...	15	12	9
Total Average Daily Sales (Gallons), ...	670	500	620

* 425 Gallons were pasteurised.
† 400 " "
‡ 340 " "

During the year a total of 205 samples of designated milks were procured and examined as to their conformity with the above Orders, and a tabular statement of the results thereof is appended.

Results of Examinations of Designated Milks.

Designation and Requirements	Number examined	Agar Count per c.c.					Coliform Bacilli		Fat Minimum (3·5 %)		
		Number conform to count	Number exceeding count	Lowest	Highest	Average of Total Samples	—	+	Number above	Number below	Average Fat Content
Certified—											
Bacteria not to exceed 30,000; Coliform absent in $\frac{1}{10}$ c.c.; Fat not less than 3·5 per cent.	53	49	4	100	215,000	14,019	43	10	50	3	% 3·93
Grade "A" (Tuberculin Tested)—											
Bacteria not to exceed 200,000; Coliform absent in $\frac{1}{100}$ c.c.; Fat not less than 3·5 per cent.	97	93	4	900	424,800	31,932	70	27	80*	17	3·89
Grade "A"—											
Requirements are as for Grade "A" (Tuberculin Tested).	16	13	3	2,800	2,451,000	300,684	10	6	11	5	3·59
Grade "A" (Pasteurised)—											
Requirements are as for "Certified."	14	11	3	2,150	63,100	19,893	11	3	12	2	3·59
Pasteurised—											
Bacteria not to exceed 100,000 (No Coliform test prescribed.)	25	23	2	800	144,250	20,400	13	12	(None prescribed)		3·56

* 3 samples were not examined as to fat content.

The necessity for the periodic inspection and testing of pasteurising plant was illustrated in connection with unsatisfactory bacterial counts given by the milk from a licensed pasteurising establishment which had hitherto yielded excellent results. The investigations, which included control temperature tests, showed a minus deviation of 9·5° F. from that on the automatic time and temperature recorder. Further inspection showed that a slight deflection in the alignment of the recording lever had in some way resulted—probably through lack of adequate care in the removal of the daily chart—thus causing a higher temperature to be shown thereon than was the actual, to the extent mentioned.

This was duly remedied, and in subsequent samples taken the former satisfactory counts were obtained.

Several somewhat flagrant breaches of the provisions of the Orders, as undernoted, came under observation during the year:—

(1) A milk purveyor and licensed dealer in Grade "A" and Grade "A" (Tuberculin Tested) Milks was found on two occasions retailing milk in bottles bearing the names of a number of other dairymen and without their consent; he was dealt with under Article 12 of the Milk and Dairies (Scotland) Order, 1925. On these occasions no less than 36 and 32 bottles respectively were found bearing the

name of a licensed bottling establishment, and describing the contents as "Grade 'A' (Tuberculin Tested) Milk," but these had been refilled by the respondent with ordinary market milk. In terms of Article 10, he was required to appear before the Health Committee to show cause why his licence should not be revoked. After hearing, the Local Authority agreed to determine the licence.

(2) Inquiries made in the early part of March, 1927, in connection with an unsatisfactory sample of Grade "A" (Tuberculin Tested) Milk consigned to a licensed City bottling establishment, showed that the consigner was not a licensed producer, but merely dairy foreman on the farm, and that it was understood by the consignees that the licence of his employer had been transferred to him by the Local Authority. Further investigation disclosed that this transfer had been refused, on the ground that the dairy foreman at the time of the proposed transfer was affected with a skin disease. The Local Authority, it appeared, had, however, renewed his employer's licence, on the understanding that the foreman would in no way take part in the handling of the milk, and that ample work would be found for him on the farm apart from the dairy.

A surreptitious visit to the farm on behalf of the consignees was made on 26th March, when the foreman in question, who was suffering from lupus, was found, with bandaged wrist, actually engaged in the milking of the cows. The consignees immediately determined their contract, and ceased to receive further supplies.

The facts were communicated to the Local Authority of the area, who subsequently required the licensee to appear before them. In view, however, of the financial loss which respondent, it was alleged, had sustained in the interval in the loss of a market, and the fact that the foreman was leaving at the term, it was deemed that a severe censure would meet the case.

(3) Repeated consecutive samples, to the number of nine, taken of Grade "A" and Grade "A" (Tuberculin Tested) Milks, from supplies as delivered within the City from a creamery and licensed bottling establishment in an adjacent county, showed continuous high bacteria counts—in some instances grossly excessive. Representations in each instance were made to the Medical Officer of Health for the area, and culminated in the withdrawal of all graded milk licences held by the creamery. Considerable improvements in structure, equipment, and methods were subsequently effected, and the licence was renewed by the County Authorities.

Tubercle, &c., in Milk.—For the detection of tubercle and estimation of bacterial count, a total of 203 samples of raw milk, as consigned from farmers to City dairymen, were procured and examined. In four samples the presence of tubercle was reported, equivalent to 1·97 per cent., the same as in the previous year. In each instance the subsequent examination of the herds disclosed the presence of affected animals, and these, in terms of the Tuberculosis Order of 1925, were removed and slaughtered.

With respect to the bacterial counts of the samples, the following table shows the results thereof :—

STATEMENT OF RESULTS OF EXAMINATION FOR BACTERIA OF FARMERS' SUPPLIES AS RECEIVED BY DAIRYMEN.

	Average Number of Bacteria per c.c.					Coliforms in $\frac{1}{100}$ c.c. (2 days)	
Number examined	Under 100,000	100,000 to 200,000	200,000 to 500,000	500,000 to 1,000,000	Over 1,000,000	—	+
203	103	29	33	17	21	124	79

As will be observed, 132 samples were, as regards bacterial count, of Grade "A" quality, *e.g.*, did not contain more than 200,000 bacteria per c.c., equivalent to 64 per cent., as against 73 per cent. in the previous year. Of the 103 samples with less than 100,000 bacteria per c.c., 53, or over 51 per cent., were of "Certified" quality—*e.g*, not exceeding 30,000—compared with 53 per cent. in 1926.

While these results, on the whole, are somewhat less gratifying, it is, however, satisfactory to note, on the other hand, that the percentage of samples in which coliform bacilli were absent has increased to 61 per cent., as against 45 per cent. in the previous year, indicating greater cleanliness in the management of cows.

The continued co-operation of the officials of the producing areas has again to be acknowledged.

Bacterial Content of Ice Cream.—With a view to determining the bacterial content of ice cream as ordinarily sold, 13 samples were obtained at various periods during the summer, and submitted to the City Bacteriologist for examination.

The results are shown in table appended :—

BACTERIAL CONTENT OF ICE-CREAM SAMPLES EXAMINED.

Date.	Average Number of Bacteria per c.c.	Coliforms in $\frac{1}{100}$ c.c. 2 Days.	3 Days.
9/6/27	88,333	–	–
26/7/27	130,000	+	+
Do.	247,000	+	+
Do.	6,950	–	–
28/7/27	30,300	+	+
Do.	14,100	+	+
Do.	19,300	+	+
9/8/27	361,000	+	+
Do.	112,000	–	–
Do.	248,000	+	+
11/8/27	306,000	–	–
Do.	121,000	+	+
Do.	185,000	+	+

Several samples, as will be observed, were of very satisfactory quality as regards their bacterial content, and the average number of bacteria per c.c. in total samples examined was 143,768, which is well within the limits for Grade "A" Milk.

Sale of Food Order, 1921. — Inspections under this Order were maintained, and various minor contraventions noted and dealers warned. There were no prosecutions.

Merchandise Marks Act, 1926.—This Act became operative as from 15th June, 1927, and its execution, so far as it relates to any goods being foodstuffs (other than the provisions relating to importation), has, in terms of Section 9, been relegated to the officers of this Department.

Numerous applications for an Order in Council relating to foodstuffs have been made, and referred for inquiry to the statutory standing Committee; but meantime Section 1 of the Act alone functions, viz., "It shall not be lawful to sell, expose for sale, or, by way of advertising goods of some kind, distribute, in the United Kingdom, any imported goods to which there is applied any name or trade-mark being, or purporting to be, the name or trade-mark of any manufacturer, dealer, or trader, or the name of any place or district in the United Kingdom, unless the name or trade-mark is accompanied by an indication of origin."

"Indication of origin" means the word "foreign," in the case of goods imported into the United Kingdom from other than His Majesty's Dominions, and, where imported from the latter, the word "Empire," or, alternatively, a definite indication of the country in which the goods were produced.

The provisions of Section 1 are of a far-reaching nature, and require considerable attention. With regard to pre-packed overseas goods reaching the consumer without break of bulk, the requirements as to marking have been easily adjusted, and, in the majority of instances, anticipated. In the case of other imported foodstuffs sold, or exposed for sale, and to which any name or trade-mark was applied, or appeared on the wrapper or article itself, some difficulty was experienced in bringing traders into line, owing to long use and wont, notably in the case of butter as ordinarily exposed for sale by retail, and also as distributed from so-called "butter factories," the product of the latter being practically wholly Colonial, Dutch, or Free State produce. The necessity in such cases for the elimination of all such markings, or, alternatively, an indication of origin, was impressed upon delinquent dealers, and subsequently received due attention.

Butter and Margarine Acts.—Seven applications for registration as wholesale dealers in margarine and one for registration as a "butter factory" were received. The premises, upon inspection, were found to conform to these statutes, and certificates were accordingly granted. In the course of inspection of "butter factories," two samples were found to contain slight excess of moisture, and the attention of occupiers directed thereto. The nature of premises coming within the scope of these Acts and the number at present on the register are as under :—

Manufactories of Margarine, ...	—
Wholesale Dealers in Margarine, ...	276
Manufactories of Milk-blended Butter, ...	—
Wholesale Dealers in Milk-blended Butter, ...	—
Butter Factories, ...	18

Fertilisers and Feeding Stuffs Act, 1906.—No request was received during the year for any samples to be taken in the prescribed manner, but 16 samples of various feeding-stuffs were otherwise obtained, and submitted for examination by the Agricultural Analyst. With one exception, all were found to conform to invoice description. In the latter a considerable excess of oil, after allowance was made for the permitted limits of error, was found, and the attention of the manufacturer was directed to the matter.

In terms of draft Regulations under consideration by the Ministry of Agriculture, it is expected that the 1926 Act will become operative as from 1st July, 1928.

Food Inspections, &c.—During 1927 a total of 14,758 inspections were made in markets, shops, and stores in connection with the detection of unsound or unwholesome food and the oversight of the conditions of storage. A total of over 79 tons of various foodstuffs were adjudged by the inspectors to be unfit for human food, and were destroyed or so dealt with as to preclude their use for human consumption.

In terms of the Public Health (Meat) Regulations (Scotland), 1924, no new applications were received for certification of storage accommodation. The premises at present on the register—nine in number—continue to be maintained and conducted in a satisfactory manner, and certificates were accordingly renewed for the current year, together with 46 certified copies in respect of vehicles from which sales are effected. The storage, exposure, and handling of foodstuffs generally continues to receive due attention, in so far as the limited powers at present possessed permit. Fourteen notices were issued and duly complied with. Occupiers of food premises generally may be said to be fairly amenable to any representations made, the greatest difficulty met with being in the case of the small business carried on as part of, or in communication with, a dwelling-house. Three such cases, however, were satisfactorily dealt with during the year. Generally speaking, there would appear to be an increasing desire on the part of consumers for greater cleanliness in production and subsequent protection from contamination of foodstuffs generally. Perhaps this is most typically reflected in the increase in wrapped bread, as well as in many other products. Early in 1925 over 50 per cent. of the entire output of bread was wrapped before distribution; now, approximately, 80 per cent. of all batch, patent, and fancy breads is delivered in sealed waxed paper wrappings, the outstanding exception remaining being that of a society producing for its own consumers, but it is now expected that they will adopt this practice at an early date. Draft Regulations in terms of Section 1 (1) of the Public Health (Regulations as to Food) Act, 1907, are believed to be under consideration by the Board, but so far have not materialised

Milk and Dairies (Scotland) Order, 1925.—A prosecution was undertaken under Articles 1 (3) and (6) (*a*) of this Order, in respect of the storage of milk and milk vessels (bottled milk) by an employer in his dwelling-house, from which delivery was made later to the consumers. For the respondent it was contended that the actual offender was not employed or paid by him, but by his roundsman, and that, therefore, the latter should have been charged. On the conclusion of the proof, Sheriff Mercer, in finding the respondent guilty, held (1) that it was within the respondent's and his roundsman's knowledge that the milk in question was, as he termed it, not being delivered "straight"; and (2) that it was also within the respondent's knowledge that the actual offender was engaged along with the roundsman "in or about the dairy" in the sale and delivery of milk, for which respondent received payment, and was responsible for, in every respect, until it reached the consumer. These two steps in the causation or permission, his Lordship was of opinion, had been proved, Article 1 (3) being obviously designed to cover circumstances like those before him, and that to hold otherwise would permit a dairyman to drive the proverbial "coach and six" through the Order.

In all, there were ten prosecutions under the Order during the year, and penalties amounting to £20 5s. were imposed.

Dairies.—The total number of "Dairies" on the register at the end of the year was 1,628, compared with 1,596 in 1926, being an increase of 32. Of these, limited registration and certification, for the reception and sale of bottled milk only, applies to 249. Apart from these, the distribution of milk in bottles only has been greatly accelerated, and one can now contemplate, with some measure of certainty, when this method of distribution will, in the near future, alone prevail. 22,901 inspections of dairy premises were made, and 19 minor contraventions of the Act or Bye-laws were noted and dealt with. One dealer was proceeded against, in terms of the 1922 Amendment Act, in respect of the unlicensed sale of milk as graded, and fined £2. Thirteen notices, relative to repairs or structural defects, were also served, and duly complied with. The new draft Bye-laws, in terms of Section 8 of the 1914 Act, are now under the consideration of the Board, and are expected to be in operation at an early date.

Byres.—Byres for milch cows situated within the City area now number 54, a decrease of 11 compared with 1926, which is mainly due to the demand for feuing sites and the extension of housing schemes. It is gratifying to note that there is now only one byre with animals wholly stall-fed, a condition of milk production somewhat of an anachronism in the light of present-day knowledge. As it is situated within a slum-clearance scheme, its discontinuance at an early date is expected.

605 inspections of byres were made during the year, the total cows allowed therein being 1,197, and the average number kept 951. The details of occupancy are subjoined.

DETAILS OF CITY BYRES AS AT 31ST DECEMBER, 1927.

	With Grazing Facilities			Wholly Stall-Fed		
Cubic space per Cow	No. of Byres	No. of Cows Allowed	Average No. kept	No. of Byres	No. of Cows Allowed	Average No. kept
At 600 cubic ft.,	51	1,141	900	1	21	16
At 800 ..	2	35	35	—	—	—
Totals,	53	1,176	935	1	21	16

Ice-Cream Shops. — The total number on the Dairy Register, in terms of the Glasgow Corporation Order Confirmation Act, 1919, was at end of year 598, as against 600 in 1926. 9,453 inspections were made of these premises, and 12 contraventions of the Act or Regulations dealt with. Four prosecutions were successfully instituted—3 in respect of failing to register and 1 for the depositing of soiled body clothes in ice-cream premises — £8 10s. in penalties being imposed. Six notices as to repairs or improvements required were issued, and received due attention.

A. B. FINDLAY,
Senior Food Inspector.

29th March, 1928.

THE SALE OF FOOD AND DRUGS ACTS.

Table showing Nature and Number of Total Samples Procured and Examined during 1927.

Nature of Sample	Informal		Statutory	
	Number procured	Number non-genuine	Number procured	Number non-genuine
Aerated Waters sweetened, ...	3	—	1	—
Apples, canned, ...	1	—	—	—
Apricots, canned,	3	1	—	—
Apricots, dried, ...	3	—	—	—
Arrowroot, ...	2	—	4	—
Bacon, ...	10	—	2	—
Banana Cream, ..	1	—	—	—
Barley, ...	9	—	10	—
Beer, ...	3	—	—	—
Blood Pudding, ...	1	—	—	—
Borax, purified,	19	1	4	—
Brandy, ...	1	—	—	—
Butter, ...	678	20	103	4
Buttermilk, ...	1	—	—	—
Candied Peel, ...	1	—	1	—
Cascara Sagrada,	25	1	1	1
Cheese, ...	36	2	35	1
Chocolate, ...	2	—	1	—
Cinnamon, ground,	13	—	9	—
Cocoa, ...	3	—	3	—
Coffee, ...	13	—	11	—
Confectionery Cream,	1	—	—	—
Cooking Fat, ...	2	—	1	—
Corn Flour, ...	13	1	4	—
Cream, ...	61	—	11	—
Cream of Tartar,	26	1	10	—
Currants, ...	9	—	4	—
Custard Powder, ...	1	—	—	—
Dripping. ...	8	—	32	—
Egg Macaroni, ...	3	—	—	—
Epsom Salts, ...	4	—	—	—
Essence of Coffee and Chicory, ...	5		—	—
Extract of Malt, ..	1	—	—	—
Figs, ...	2	—	1	—
Fish Dressing, ...	1	—	—	—
Flour, ...	2	—	4	—
Flour, S. R.. ...	5	—	10	—
Flowers of Sulphur,	6	—	3	—
Fruit Salad, dried,	3	—	1	—
Gin, ...	12	—	—	—
Ginger, ground,	12	—	5	—
Glacé Cherries. ...	—	—	1	—
Glycerine, ...	1	—	—	—
Glycerine and Honey,	1	—	—	—
Gregory's Mixture,	21	—	—	—
Ham, ...	10	—	4	—
Honey, ...	3	—	—	—
Lard, ...	11	—	18	—
Lemon Curd. ..	1	—	—	—
Lime Juice Cordial,	9	1	—	—
Lime Water, ...	4	—	—	—
Liniment of Turpentine, ...	2	—	—	—
Linseed, Crushed,	11	—	5	—
Liquorice Powder,	8	—	—	—
Lobster, Canned,	2	—	—	—
Macaroni, ...	—	—	1	—
Margarine, ...	36	1	28	1
Meat, canned, ..	—	—	1	—
Meat, potted, ...	9	—	1	—
Milk, condensed,	24	—	—	—
Milk, dried, ..	9	1	—	—
Milk, evaporated,	1	—	—	—
Milk, skimmed, ...	16	2	9	3
Milk, sweet, ...	2265	133	898	26
Mince, ...	121	67	27	13
Mustard, ...	12	—	5	—
Oatmeal, ...	2	—	—	—
Oil of Peppermint,	3	—	—	—
Oil, camphorated,	51	5	6	—
Oil, castor, ...	3	—	1	—
Oil, cod-liver, ...	7	—	—	—
Oil, eucalyptus, ...	18	—	2	—
Oil, olive, ...	35	—	4	—
Ointments, various,	11	2	—	—
Paregoric, ...	8	—	—	—
Peaches, canned.	1	1	—	—
Pears, canned, ...	1	1	—	—
Peas, canned, ...	6	1	—	—
Pepper, black, ...	14	—	6	—
Pepper, compound,	1	—	—	—
Pepper, white, ...	23	—	23	—
Pickles, ...	10	—	—	—
Preserves, ...	10	—	4	—
Prunes.	3	—	3	—
Raisins.	8	—	8	—
Rice, ground and whole, ...	20	—	17	2
Rum, ...	55	3	8	1
Sago, ...	1	—	—	—
Salmon, canned, ...	2	—	—	—
Sauces, ...	12	—	—	—
Sausages, ...	58	11	7	3
Sausage Meat, ...	1	—	1	1
Sugars, various, ...	4	—	3	—
Shrimps, potted,	1	—	—	—
Suet, shredded, ...	1	—	2	—
Syrup, ...	4	—	—	—
Tartaric Acid. ...	19	—	5	1
Tapioca, ...	—	—	5	—
Tea, ...	2	—	—	—
Tincture of Iodine,	12	3	—	—
Tomatoes, canned,	1	—	—	—
Treacle, ...	1	—	—	—
Vinegar, ...	4	—	4	—
Wheat, shredded,	—	—	1	—
Whisky, ...	133	7	29	1
Wine, Meat and Malt, ...	—	—	1	—
Wine, Non-Alcoholic,	3	—	2	—
Wine, Port, ..	1	—	—	—
Grand Totals.	4132	266	1411	58

The Sale of Food and Drugs Acts.

Details of Samples in which Proceedings were Initiated during Year 1927.

Number of Complaints	Nature of Sample and Alleged Offence	Number of Convictions	Amount of Fines imposed			Number Dismissed or found Not Proven	Number Deserted Simpliciter	Number Withdrawn and Expenses Paid	Amount of Expenses Paid	
			£	s.	d.				£	s.
13	Sweet Milk—Deficient in Milk-Fat, ...	12	88	0	0	—	1	—	0	0
2	Sweet Milk—Deficient in Milk solids other than Fat, ...	2	7	0	0	—	—	—	0	0
1	Skimmed Milk—Deficient in Milk solids other than Fat, ...	1	3	0	0	–	—	—	0	0
2	Butter—Contained Fat other than Milk-Fat,	2	8	3	0	—	—	—	0	0
2	Butter—Contained excess Water, ...	2	4	0	0	—	—	–	0	0
1	Margarine—Failing to label, ...	1	2	10	0	—	—	—	0	0
1	Margarine—Contained excess of Butter-Fat,	1	2	10	0	—	—	—	0	0
1	Cheese—Contained Fat other than Milk-Fat.	1	2	0	0	—	—	—	0	0
1	Tartaric Acid—Contained an excessive proportion of Lead, ...	—		—		1	—	—	0	0
1	Whisky—Contained excess Water, ...	1	5	0	0	—	—	—	0	0
1	Rum—Contained excess Water.	1	5	0	0	—	—	—	0	0
1	Sausages—Contained excess of Preservative, ...	1	2	0	0	—	—	–	0	0
1	Sausage Meat—Contained excess of Preservative, ...	1	5	0	0	—	—	—	0	0
4	Mince—Contained Preservative during prescribed period, ...	4	3	0	0	—	—	—	0	0
6	Mince—Contained excess of Preservative during permitted period, ...	5	14	0	0	1	—	—	0	0
38		35	151	3	0	2	1	—	0	0

ABSTRACT OF PROCEEDINGS UNDER OTHER THAN THE ABOVE ACTS.

Act, Order, or Regulation	Nature of Offence	Number of Complaints	Number of Convictions	Amount of Fines Imposed £	s.
Milk and Dairies (Scotland) Act, 1914, and Glasgow Corporation Order Confirmation Act, 1919.	Failing to register, ..	3	3	6	10
Ice Cream Regulations, ...	Depositing soiled body clothes in ice cream premises, ...	1	1	2	0
Milk and Dairies (Amendment) Act, 1922.	Unlicensed sale of milk as "pasteurised," ...	1	1	2	0
Milk and Dairies (Scotland) Order, 1925.	Using milk bottles other than own, ...	7	7	13	14
Do.	Failing to keep vessels containing milk covered,	1	1	2	0
Do.	Storing milk vessels in dwelling-house, ...	1	1	3	1
Do.	Keeping milk vessels where liable to contamination,	1	1	1	10
		15	15	30	15

PART II.

AIR PURIFICATION—SMOKE ABATEMENT.

The year 1927 is noteworthy for the advance made in enlarging interest in smoke abatement in Scotland, by the formation of a Scottish Section of the Smoke Abatement League of Great Britain, formed at a conference held in the City Chambers, Glasgow, on 9th March, 1927.

In this Association was merged the Glasgow and West of Scotland Branch of the League, formed in 1910, whose existence has been contemporaneous with the parent body. The Executive Council of the new Scottish Section comprises representatives from all the principal cities and manufacturing burghs and county areas of Scotland, together with representatives of other interested Associations.

This marks an important step forward, because it has long been felt that larger administrative areas are essential to real progress in smoke abatement, and with the powers foreshadowed in the Scottish Smoke Abatement Bill the formation of such areas should be made more practicable by an extended Association such as that recently formed.

Extended areas, with uniform powers of administration, would get rid of some of the anomalies which meantime exist, such as two works close to each other, one of which is permitted to discharge unhindered excessive smoke, while the other is under close supervision and subject to prosecution, because it is within the City boundary. This is particularly apparent in the Eastern district of Glasgow, where the City boundary passes through two different works, with the furnaces and chimneys left out in both cases.

Improvements. — Some very substantial improvements have been made during the year, which has had the effect of stopping all smoke in some cases, and of reducing it very considerably in others.

The north east-end district of Glasgow, which is industrial in nature, has a large number of smoky chimneys, so that an improvement which renders two or more of the more prominent chimneys smokeless is worthy of mention.

In the district tapped by Petershill Road, there is a large steel work, which produces thin steel sheets, and the heating of the material for their production requires to be very carefully done. Up till eighteen months ago the furnaces in which the ingots were heated were fired by bituminous coal, and in the process much smoke was produced. In the intervening months new furnaces and gas producers were constructed, which have proved eminently successful in the manufacture of these plates, and there is now practically no visible smoke produced.

The introduction of gas firing for metallurgical processes in Glasgow in other works would effect considerable improvement in this respect.

Again, in the Anderston district, a large baking company has converted other four of its biscuit-baking ovens from coal to gas firing.

and four furnaces have already been reconstructed, in order that Corporation gas may be used. With the elimination of each coal-fired furnace, the chimney has undergone an improvement, and in a short time it will be completely smokeless. This is very gratifying, as before embarking on this procedure the company were repeatedly fined for emitting excessive smoke, the last occasion being for a sixth offence.

Another encouraging improvement was carried out by one of the Corporation Departments, which a few years ago was very backward in smoke-preventing methods of burning coal in their steam boilers. At two of the stations, within the last year, there have been installed water-tube boilers, fitted with chain-grate mechanical stokers and air pre-heaters, which embody the latest appliances for smoke prevention and heat efficiency. Another Corporation Department, in addition to installing similar appliances, has added special means for preventing flue dust and gritty matter escaping from the chimney.

There is no doubt whatever that means exist for the prevention of smoke from steam-boiler furnaces, and also from most process furnaces, but the initial cost acts in many cases as a deterrent to progress. Nevertheless, much has been done towards the elimination of smoke by manufacturers in Glasgow during the twenty-nine years of the Health Committee's administration, and this is shown by the fact that in the years 1899 and 1900 the intimations of excess smoke given to furnace users represented 17·5 per cent. of the chimneys observed, whereas for the last three years they average only 1·3 per cent., notwithstanding the fact that in the former years an excess meant five minutes' black smoke, while in the three latter years two minutes of dense smoke sufficed.

There are at least fifty works in Glasgow which were very bad smoke producers in the early years, but which, by the substitution of mechanical stoking for hand firing, the elimination of over-worked steam boilers, the installation of electric motors for power production, or the substitution of gas for raw coal in metallurgical furnaces and biscuit-baking ovens have so changed the character of the chimneys that dense smoke is never seen to issue from them now.

The following is a summary of the improvements effected during those years, which have been the means of bringing the above conditions about:—

New steam boilers installed to give increased power,	148
Mechanical stokers fitted to steam boilers replacing hand firing, ...	299
Supplementary air smoke preventing appliances fitted to steam boilers, ...	241
Gas engines using producer or town gas, replacing steam boilers, ...	79
Steam boilers replaced by the installation of electric motors for power purposes, ...	160
Furnaces in which smokeless fuel was substituted for bituminous coal, ...	161
Furnaces in which gaseous fuel was substituted for coal firing, ...	144
New chimneys erected, or existing chimneys heightened to give better draught, ...	109

Prosecutions.—42 prosecutions were taken against offending firms for issuing smoke in excessive quantities during the year. In 41 instances convictions were obtained, and fines, amounting in the aggregate to £62 14s., were imposed. Of these, 24 were first offences, 10 were second offences, 5 were third offences, and 2 were fourth offences within five years, and the average fines were respectively 19s. 2d., 43s. 3d., 58s., and 35s. The maximum fine is 40s. for a first offence, and £5 for a second or subsequent offence if committed within five years of the immediately previous conviction.

Complaints.—The number of complaints received of smoke nuisances from low chimneys in the immediate vicinity of the complainers' dwellings during 1927 constitutes a record. This would seem to indicate that the public are demanding a higher standard of air purification.

In practically every instance when complaints are received remedial measures are taken to stop the nuisance, most of which are caused by smoke issuing from short heating-furnace chimneys or from slow combustion stoves or open fires in workshops.

Smokeless Fuel for Special Furnaces. — Little difficulty is experienced in dealing with dense smoke from stationary steam boilers, but difficulty does occur in dealing with smoke from steam wagons passing along the streets which is often not dense, but yet heavy enough to be objectionable. Tar-melters operating in the streets are included in this category.

By the use of coke, either from high-temperature gas retorts, or from low-temperature carbonisation processes in the furnaces of these appliances, the objectionable smoke would at once cease, but our statutory powers do not enable us to demand the use of such fuels. An attempt was made by Provisional Order in 1922 to obtain powers to require the use of smokeless fuel in steam wagon boilers and tar melters, but it failed because it was argued that Glasgow was already in advance of other industrial centres in the matter of smoke abatement in respect of its powers under the Police (Further Powers) Act, 1892.

Offenders are only prosecuted when other means of redress fail, and in efforts to help furnace users to meet the requiremests of the Act practical experiments are made by the Inspectors to demonstrate that gas coke is a quite suitable fuel for use in tar-melters. Following these demonstrations paving contractors adopted that fuel. more largely, for melting pitch.

Experiments were also made with two steam wagons of different types, which demonstrated that low carbonisation coke, locally produced, was capable of giving equal haulage power at the same cost as steam coal, when skilfully used in steam wagon boiler furnaces; but, because the coke was more bulky than raw coal, and ostensibly required more storage space than the wagons meantime possess to carry a full day's burning, little headway has been made, so far, in extending its use in these vehicles.

An Appeal to Steam Wagon Owners.—Following on the smokeless fuel demonstrations, a letter was sent to all steam wagon users in Glasgow, in which attention was drawn to the frequency of complaints reaching the Department regarding the pollution of the atmosphere through the emission of excess smoke from steam-propelled vehicles travelling along the streets of the City. These complaints seem to be well founded, as shown by the fact that within a comparatively short period ten steam-wagon users have been convicted and fined for such offences.

In the letter it was stated that, while the principal cause of the issue of dense smoke is careless firing, much of the smoke is attributable to the fuel used, and the owners of such vehicles were asked to co-operate with the Department, whose officers would be prepared to afford assistance and advice in the management of their furnaces.

Central-Heating Furnaces.—In these furnaces also there is need for discarding the use of bituminous fuel. It is found on inquiry when excessive smoke is made that the fuel in use is invariably bituminous double nuts. Sectional heaters in construction are akin to water-tube boilers, and while ordinary coal could be burned in the old saddle type of heater as readily as in fire-tube boilers without the production of excessive smoke, the new type of water heater is a much more difficult furnace to deal with. Coke produced, either by the high or low temperature process, if skilfully stoked gives good results in sectional water-heaters, because such heaters mainly depend on radiant heat transmission, and it is undoubtedly true that good coke gives higher radiant heat effect than ordinary coal, but good draught and thick fires are essential to success. In cases where the sectional heaters are of limited capacity, and the draught is somewhat weak, an intermediate fuel, consisting of equal proportions of coke and steam coal nuts, is often preferred, and gives, when carefully used, fairly good results.

Smoke Abatement League Classes.—While the improvements made to furnaces by the adoption of mechanical stokers and by other means, recorded year by year are gradually reducing the amount of industrial smoke in the atmosphere, there still remain a very large number of coal-fired furnaces where it is essential to have skilled hand-firing. and, in recognition of this fact, evening classes for the instruction of steam-boiler firemen and works engineers in the principles of coal combustion and efficient furnace management are held during the winter session in the Sanitary Chambers.

The classes were inaugurated in 1910 and, except for the war years, have been going on since then. Two classes are carried on, at each of which twelve lectures are given. Each class meets fortnightly on Tuesday evenings, on alternate weeks, and those who enrol are at liberty to attend both classes on payment of a single fee of 2s. 6d. Each year a number of the men avail themselves of the opportunity. The enrolments for session 1927-28 numbered 59, which brings up the total enrolments since the classes began to 891. 39 men had perfect attendance, and so qualified for full attendance certificates. The average attendance of both classes combined was 90 per cent.

To the written examination, held at the close of the session, 23 men came forward to compete for the class prizes and to qualify for merit certificates. These certificates are given to those who gain 70 per cent. of marks, and of the number who entered, 20 exceeded that standard. The average marks of all examined was 85 per cent. The classes are carried on under the auspices of the Scottish Section of the Smoke Abatement League of Great Britain, and at the close of each session, the Executive Committee of that body invite the members of the classes to a social meeting, at which the prizes and certificates are presented. While the classes are primarily intended for instruction in smoke-preventing methods of stoking, a large amount of attention is given to the matter of heat efficiency, which means the maintenance of the desired steam with the least quantity of fuel burned, and so both the public and the employers benefit.

Soot-Collecting Gauges.—The soot-and-dust fall from the atmosphere for 1927, as indicated by the 9 rain-deposit gauges situated throughout the City, amounted to 314·44 tons per square mile, as against an average of 274·5 tons for the preceding six years.

These figures taken literally would seem to indicate a more smoke-polluted atmosphere, but that is not so. The increase is due to the fact that the heavier rainfall of 1927 washed the atmosphere more thoroughly.

A study of the figures for a number of years shows unmistakably that the soot-and-dust fall rises and falls in sympathy with the rainfall, and increases directly with the number of rainy days in a month. For instance, as was pointed out in last year's Report, a little rain every day would produce a greater deposit of impurities than if the same amount of rain fell in heavy showers at intervals.

As will be seen from the table on page 247, giving the average deposit of each element of atmospheric pollution, August stands out as showing by far the heaviest deposit for the year, with 54·45 tons per square mile, and this is accounted for by the exceptionally heavy rainfall of 139·39 millimetres for that month.

Another interesting feature is that the atmospheric deposit for the summer months was 39 per cent. greater than for the winter months, which, but for the fact that the rainfall was correspondingly heavy, would be unintelligible.

COLIN B. PARK,
Senior Smoke Inspector.

6th April, 1928.

AVERAGE DEPOSIT OF EACH ELEMENT OF ATMOSPHERIC POLLUTION FOR EACH MONTH OF 1927.

			English Tons per Square Mile																
			Insoluble Matter				Soluble Matter				Included in Soluble Matter								
	Month	Rainfall in Millimetres	Tar	Carbonaceous other than Tar	Ash	Total Insoluble Matter	Loss on Ignition	Ash	Total Soluble Matter	Total Solids for 1927	Sulphates as (SO$_3$)	Chlorine as (Cl)	Ammonia as (NH$_3$)	Total Solids for 1926	Total Solids for 1925	Total Solids for 1924	Total Solids for 1923	Total Solids for 1922	Total Solids for 1921
Mean of 9 Stations,	- Jan.,	117·03	·19	3·91	5·97	10·07	6·13	10·43	16·56	26·63	4·76	4·61	·55	23·57	24·16	23·22	19·76	22·12	27·09
,, 9 ,,	- Feb.,	54·06	·15	4·04	8·08	12·27	3·58	5·75	9·33	21·60	3·06	·70	·16	19·52	19·99	14·12	20·44	17·84	16·36
,, 9 ,,	- Mar.,	71·47	·16	3·01	6·81	9·98	3·26	5·34	8·60	18·58	3·59	·54	·49	21·48	17·28	22·07	13·72	14·10	23·88
,, 9 ,,	- April,	54·52	·20	3·45	9·94	13·59	4·34	6·92	11·26	24·85	3·32	1·21	·58	18·63	26·02	25·97	21·21	21·87	17·13
,, 9 ,,	- May,	59·77	·23	3·92	8·54	12·69	3·38	6·10	9·48	22·17	2·95	·72	·33	20·97	28·75	31·94	21·39	19·17	21·87
,, 9 ,,	- June,	101·55	·38	6·48	9·50	16·26	5·99	9·00	14·99	31·25	4·89	·95	·60	19·92	15·98	20·88	17·90	22·02	20·39
,, 9 ,,	- July,	100·83	·16	6·07	6·25	12·48	5·91	8·48	14·39	26·87	3·78	1·04	·62	29·90	23·04	28·65	36·81	19·45	30·48
,, 8 ,,	- Aug.,	135·39	·30	5·96	11·55	17·81	8·34	28·30	36·64	54·45	7·56	3·01	1·04	20·79	23·22	21·33	33·65	26·76	29·87
,, 9 ,,	- Sept.,	121·39	·13	3·91	8·52	12·56	3·34	9·26	12·60	25·16	4·74	·87	·45	19·82	18·40	24·32	25·16	20·37	17·26
,, 9 ,,	- Oct.,	108·03	·25	3·35	6·99	10·59	11·08	11·19	22·27	32·86	3·04	1·20	·73	22·38	24·17	26·51	31·71	13·76	19·73
,, 9 ,,	- Nov.,	86·80	·10	2·72	5·06	7·88	3·58	8·44	12·02	19·90	4·04	1·31	·23	39·94	14·30	23·86	29·81	19·19	20·85
,, 9 ,,	- Dec.,	24·53	·11	2·48	4·63	7·22	2·25	3·65	5·90	13·12	1·95	·57	·14	19·16	36·30	19·78	38·00	24·57	21·31
Monthly Mean of all Gauges,		86·28	·19	4·11	7·65	11·95	5·10	9·40	14·50	26·45	3·97	1·39	·49	22·99	22·63	23·55	25·80	20·10	22·18
Yearly deposit in Tons per square mile,			2·26	49·30	91·84	143·4	61·18	112·8	174·0	317·44	47·68	16·73	5·92	275·9	271·6	282·6	309·6	241·2	266·2

PART III.

GENERAL SANITARY OPERATIONS.

The reports by the Divisional Sanitary Inspectors are included in this section; they deal with the work of the department shown in Table XXIII in the Appendix, which contains the tabulated statement of numbers of inspections, nuisances, &c., in the Municipal Wards of the City for each section of the work.

CENTRAL DIVISION.

In the Central Division there are 70,688 separately-occupied premises—4,705 houses of one apartment, 18,871 of two apartments, 12,012 of three apartments, 5,741 of four apartments, and 9,487 of more than four apartments; 410 as combined shops and dwellings; and 19,462 as business premises.

Visits of inspection numbered 194,776, resulting in the booking of 13,230 complaints of nuisances, 12,675 of which were remedied. In addition to this, 781 contraventions of the Bye-laws relating to Farmed-out Houses were dealt with.

The storm of January, 1927, caused considerable damage to property, particularly to roofs and chimney-heads, as illustrated (see Appendix) by the increased number of complaints regarding defective chimneys. In one case a tenement (containing 22 houses), which was about to be included in a slum-clearance scheme, was so severely damaged that it had to be demolished at once.

Nuisances caused by chokage of drains and sanitary fitments are still too numerous, 5,668 complaints of this nature having been booked. The existence of conveniences used in common is a prolific cause of such chokages. Where water-closets are situated inside the houses, chokages are much less frequent; in the rehousing schemes, where each house is provided with separate fitments, there are few complaints of this nature.

During the year two cases of alleged injury to health, arising from the inhaling of noxious fumes from coke, were reported. In both cases it was stated that fumes were entering the houses from defects in the chimneys of adjoining bakehouses. A sample of air was taken from one of the houses, and an excess of carbon dioxide was revealed. A defect in the wall adjacent to the house was repaired, and this effected a remedy. In the other case, which was supported by a medical certificate, defects in the wall between the complainer's house and the bakehouse chimney had been caused by a previous fire in the bakehouse. The Master of Works Department caused the necessary repairs to be carried out, and no further complaint has been received.

The opening of a fish restaurant in a tenement was the cause of considerable dissatisfaction, and numerous letters were received regarding smells arising from the frying process. The proprietor agreed to fix hoods over the pans, and to improve the means of ventilation. Since the change was made, no further complaints have been received. It is suggested that powers should be obtained whereby owners or prospective occupiers who intend establishing such businesses should be compelled to consult the Sanitary Inspector as to the suitability of the premises.

From a ship at Merklands Wharf several wagon-loads of decaying oranges were removed by the Cleansing Department, and loaded into railway trucks at Crow Road Station. Horse manure was placed on the top of the oranges; the inspector found boys opening the side door of the wagon, and carrying off the fruit. The Partick police placed constables on duty at the station to prevent further mischief.

Some difficulty arose in connection with a large fire in the City, a grain store in North Street. After the fire the refuse was sold by auction, and the buyer removed all with the exception of about 50 tons of sodden hay and grain. A plague of flies resulted, and the adjoining tenements were infested. It was difficult to find anyone to acknowledge ownership of the material. Uultimately the auctioneer was persuaded to have it removed, and as the flies disappeared thereafter it was evident that they had gone with the grain.

An interesting case occurred in connection with veterinary premises, locally known as the Dog and Cat Hospital, in the central residential part of the division. A veterinary surgeon converted a dwelling-house (consisting of two flats and a basement) into a hospital, with accommodation for 14 dogs and 10 cats. The neighbours objected, and a civil action followed. The veterinary surgeon was ordered to cease keeping dogs on the premises, and his practice now is not to keep dogs overnight. From a sanitary point of view the premises were satisfactory, the complaints referring mainly to the barking of the animals.

Complaints regarding close and stair cleaning still take up much time. Many such complaints are made by tenants responsible for the cleansing of closes next to licensed premises, and it is suggested that an improvement would be effected if the occupiers of licensed premises were to provide separate sanitary accommodation for female patrons. A complainer made an appeal to the Town-Clerk, asking whether the Sanitary Inspector was right in his decision that steps outside a building cannot be regarded as coming within the bye-laws relating to the cleansing of closes and stairs. The Town-Clerk decided that the Sanitary Inspector's decision was correct.

The circular letter of advice to occupiers regarding the throwing of refuse from windows continues to act as a salutary warning, there being a big reduction in complaints of this nature.

The policy of securing the removal of unused and dilapidated structures in back courts has been continued, and during the year quite a number of courts have been cleared of such erections, thus allowing for more air space and better ventilation.

Regulated Houses.—57 farmed-out houses have been removed from the register through the demolition, by order of the Dean of Guild, of dangerous properties. The majority of the displaced tenants drift into houses of a similar nature. There remain on the register 430 farmed-out houses, on which strict supervision is maintained, as shown by the fact that 781 contraventions of the bye-laws were notified to owners and principal tenants during the year. Two prosecutions were undertaken. In respect of houses at Paterson Street, the house-farmer was summoned for failing to provide and maintain domestic necessaries, furniture, and bedding. The full penalty under the bye-laws was imposed—£5, or 20 days' imprisonment. The fine was paid. A fine of £3 was imposed for a similar contravention as regards houses at Dean Street.

Ticketed Houses. — The percentage of overcrowding—11·12 per cent.—in ticketed houses is as great as in past years, but the number of ticketed houses in the division is reduced by 330, through the operation of slum-clearance schemes and the demolition of dangerous buildings. Sandyford (Ward XV), where 15·58 per cent. of the ticketed houses were found to be overcrowded, is the worst in the division. The demolition of the properties in Richard Street, under the 1923 Scheme, should lead to an improvement. Anderston (Ward XIV), with 14·56 per cent., should be improved by the clearances at Clyde Street and Piccadilly Street, and the further contemplated clearances at Cheapside Street and Warroch Street. An extremely bad case of overcrowding was reported, and will suffice as an illustration. In a single-apartment there lives a family of seven—father mother, two sons of 22 years and 10 years, and three daughters of 18, 15, and 6 years respectively. There is only one bed, in which four of the family sleep. Two small movable beds are prepared at night, the father occupying the one and the eldest son the other. The mother sits by the fire all night, reading and dozing as there is no sleeping-place for her. When the eldest son goes out early in the morning, she then gets a rest in the bed he has vacated.

The following table shows the distribution of overcrowding of ticketed houses in the division :—

CAUSE OF OVERCROWDING IN TICKETED HOUSES—CENTRAL DIVISION.

	One Apartment.					Two Apartments.					Three Apartments.				
Ward.	Visits.	Wholly by Lodgers.	Partly by Lodgers.	Own Family.	Total Cases.	Visits.	Wholly by Lodgers.	Partly by Lodgers.	Own Family.	Total Cases	Visits.	Wholly by Lodgers.	Partly by Lodgers.	Own Family.	Total Cases.
12	851	...	4	112	116	899	12	2	62	76	6	...	...	...	...
13	928	6	3	54	63	1,727	15	6	122	143	112	...	...	10	10
14	3,091	12	9	497	518	3,457	39	30	429	498	57	2	...	...	2
15	1,285	6	2	255	263	1,170	7	3	110	120	10	...	...	5	5
23	1,754	3	3	241	247	678	...	2	81	83	...	...	...	...	...
24	132	...	...	13	13	90	...	...	5	5	...	...	...	...	...
Total,	8,041	27	21	1,172	1,220	8,021	73	43	809	925	185	2	...	15	17

Rat Week. — Although activities against the rat nuisance are continuous, action, as suggested by the Board of Agriculture, was taken during the week ending April 3rd. Circulars were sent to the occupiers or owners of 197 properties known to be, or suspected to be, rat infested. This list included dwellings, stores, shops, restaurants, stables, hotels, farms, piggeries, canal banks, railway sheds, &c. In all but three instances some action was taken, and 335 rats are understood to have been caught during the special week, but this is not a real indication of the work done. In 13 cases poison was used. In the majority of the properties trapping is resorted to; in one property a mongoose is kept, while in many instances reliance is placed on a cat or a dog. The best method, however, is to make the building rat-proof, and to gut out nesting-places. This is not always practicable, but much work on those lines is carried out. In his report to the Board of Agriculture, Mr. Munro comments favourably on what is being done to keep rats in check in the division.

Drainage. — The inspectors of drainage have been kept fully employed during the year. In the central part of the division several large systems have been dealt with. In Kelvinside, Jordanhill, and Knightswood Housing Schemes hundreds of drainage systems have been smoke tested. Altogether, the smoke test has been applied on 1,719 occasions.

The standard of drainage work in the new housing schemes is not very satisfactory, and strict supervision is necessary. Early in the year the Director of Housing was communicated with regarding the joining of rain conductors of one block with the soil drain of the adjacent block. Objection was also taken to the inclusion of too many loose faucets, employed apparently to use up short pieces of piping. The Director at once complied with the recommendations made. In this class of work it is found that fireclay piping, bends, &c., are being imported from abroad, principally from Belgium. They are made in 3-ft. 6-in. lengths, and are very hard and brittle. The access doors of inspection bends are practically useless on account of their small dimensions.

In old properties to which the smoke-test has been applied, a measure of success has been attained in securing the removal of old "pan" water-closets. For instance, from eight tenements thirty "pan" water-closets were removed, and in another property the owner has promised to remove two every half-year until each house is provided with a modern convenience. The evidence of carelessness, want of thought, or ignorance, which the drainage inspectors report is amazing. In one large medical institution in the centre of the City the inspector found a water-closet compartment locked, and a notice on the door marked "Out of use." The water-closet basin was still in position, but dry. The compartment was used as a store. In one of the newest dancing halls, bread, ham, and other eatables were stored in the water-closet compartment adjoining the kitchen. In a tea-room a gas cooker was found fitted up in a lavatory, and in another tea-room the water-closet basins were used as rests for boards filled with cakes and tea-bread.

Housing.—It is gratifying to report that during the year under review the 1923 Slum Clearance Scheme, so far as the Central Division is concerned, was completed. The scheme included several of the most congested areas in the division. Richard Street, west of North Street, with a density of 1,161 persons to the acre, against 56 for the whole City, was cleared away. In this area there were 455 houses and a population of 2,031. In Clyde Street and Piccadilly Street area, one of the oldest parts of the ancient Burgh of Anderston, there were 174 houses, with a population of 725 persons, equal to 923 persons to the acre. This area has now been cleared.

The old district of Brownfield (Broomielaw) is now almost free from back lands. In the 1923 scheme, the worst of these were included. The high back lands, with back-to-back houses at 20-40 Brown Street (44 houses, with a population of 181); also the back lands in School Close, at 163 Cowcaddens, have been demolished (29 houses, with a population of 131). The total number of houses in the Central Division included in this scheme was 702, displacing a population of 3,066.

As far as possible, the people from these areas have been rehoused at Yorkhill and Scotstoun, where they are doing well. With the exception of an occasional and temporary lapse, there is not a dirty house in either of these rehousing schemes. A number of the displaced tenants—over 10 per cent.—principally dock workers finding it a disadvantage to remove from the vicinity of the docks, were able to exchange into houses near their work. Efforts ought to be made to secure ground convenient to the docks for this class of worker. In several instances, the demolition of a tenement has been delayed through the difficulty of finding substitute houses for another class of tenant—on the whole, a most respectable class—found in considerable numbers in the old houses we are dealing with. Those people find it inconvenient to remove to the rehousing schemes on the outskirts of the City. These are particularly lone women employed in factories or as charwomen in the business parts of the City. A single apartment is all they require, and they can afford neither the time nor the additional cost of travelling to the new houses.

Some progress has been made with the 1926 Slum Clearance Scheme. Eight tenements, containing fifty houses, have been demolished. Most of these had to be dealt with hurriedly, as they were fast becoming dangerous. In addition, the Dean of Guild ordered the demolition of four tenements which had not been included in a slum clearance scheme, but which had become unsafe.

Attention is again drawn to the illegally occupied, and the underground houses mentioned in the Report of 1925. Over 100 of these could be closed without the formality of a Closing Order, or inclusion in a slum clearance scheme. As an illustration, there are certain houses on which a Closing Order is already operative, but which are still occupied.

The Annual Report of 1921 contained a detailed account of the back lands in the division. There were then 77 back-land properties, containing 798 houses. Since 1921, 41 of these, containing 407 houses, have been demolished, leaving 36 back lands, containing 391 houses, in the division.

Back Courts. — There are many back courts in the division which require attention. The surface of all back courts, except those used as bleaching greens, should be paved with an impervious material and drained. In Section 21 of the Burgh Police Act, 1923, the Town Council in burghs is given power to demand this, and in some of the burghs adjacent to Glasgow all the back courts are paved. The powers possessed by Glasgow on this point are contained in Section 31 of the Building Regulations Act, 1900. In this division there are 1,826 unpaved back courts, and of these 159 are in an insanitary condition. These are courts which become saturated with filth of all descriptions, and are in consequence foul-smelling. It is impossible to cleanse such courts in a thorough manner, or keep them in a clean condition. In many instances they are in such a condition as to prevent tenants gaining access to the ashbins, the result being that the contents of pails and boxes are deposited in any convenient corner. It would be a vast improvement if in such properties the provisions of Section 31 of the Building Regulations Act were enforced.

Rag Flock.—20 samples of rag flock were taken during the year, and all were found, on analysis, to be within the standard made under the regulations. In several cases the flock was proved to be exceptionally clean. In one case, only 1·5 parts of chlorine per 100,000 parts flock were found. In others, 3 parts chlorine, 7 parts chlorine, and 8 parts chlorine per 100,000 parts flock were found.

Female Inspectors.—The female inspectors visited 28,947 houses and only 194 were deemed sufficiently dirty to warrant the service of a notice. 871 houses, however, required further supervision, and in 282 of these improvement is reported. Under the powers contained in the Police Order, 1904, dealing with filthy houses and dirty or verminous children, 219 visits to schools were made. 4,136 children were paraded for inspection, but only 390 were found to be verminous and 133 dirty. The female inspectors follow such children to their homes. In this connection 752 homes were visited; 35 were found dirty, and 60 required supervision.

It is interesting to observe the response of former slum-dwellers to their new environment at Yorkhill and Scotstoun. These schemes are small, and the occupants in consequence are more easily influenced for good. The lady inspector reports as regards the Scotstoun Scheme: "On the whole the tenants are doing well. Two-thirds of the houses are clean, many being kept remarkably well, tastefully papered, painted, or enamelled, and scrupulously clean. The remainder are fair, with the exception of a few which are in the unsatisfactory category. . . . Taking into consideration the past environment of most of these people, their present condition of poverty, coupled in some cases with ill-health, their present circumstances are creditable. All are appreciative of their improved housing conditions." The same general observations apply to the Yorkhill Scheme.

Workshops. — There now exist 1,626 workshops, 78 having been added to the register during the year. 139 were found in a dirty condition. No place was overcrowded, but six were found deficient in light and ventilation. 25 had inadequate or defective sink accommodation, and 249 other nuisances of various descriptions were dealt with.

A survey of shops was made as regards water-closet provision for employees; 5,437 shops were visited, 317 of which were found to have no suitable convenience. Notices have been issued requiring the provision of suitable water-closet accommodation where necessary, and in many cases this has been provided.

635 visits of inspection to bakehouses were made. 62 warnings regarding necessary cleansing were issued, and 49 other nuisances were found. Several underground bakehouses have changed hands during the year, and, in view of promised legislation, it is a moot question whether underground bakehouses should be permitted.

Prosecutions.—Credit is due to the district inspectors that out of 13,000 complaints dealt with only 18 cases were taken to Court. All of these were successful, and comprised two prosecutions under the Farmed-out House Bye-laws; one under the Rag Flock Act; seven prosecutions for failure to cleanse closes or stairs, resulting in fines ranging from 10s. to £1 ; and two for failure to provide water-closet accommodation.

WILLIAM ROY,
Divisional Sanitary Inspector.

26th March, 1928.

NORTHERN DIVISION.

The year was notable for the extreme variation in the weather. The wind-storm towards the end of January, which resulted in much damage to property, was followed by complaints with regard to leaking roofs and defective chimneys; and, in consequence of the heavy rainfalls in July, there was serious flooding of several basement houses.

The nuisances dealt with during the year varied little in number or in kind as compared with immediately preceding years. Details are stated in Appendix.

For the most part little difficulty was experienced in securing prompt attention to intimations issued regarding insanitary conditions, but the long-drawn-out procedure laid down in the Public Health Act for the removal of nuisances was taken full advantage of by a negligent and dilatory owner of a number of more or less slum tenements in Cowcaddens Ward. The water-supply of a tenement of twelve dwelling-houses had been turned off in consequence of a burst pipe, and, notwithstanding intimation, notice, and 'phone messages, three weeks elapsed before the necessary repair was effected and the water turned on. In the interval, apart from the inconvenience experienced by the families concerned having to carry water from a neighbouring building, grossly insanitary conditions had arisen, and the need for a more summary method of dealing with such a situation was markedly emphasised. On fourteen occasions throughout the year the delay in taking steps to abate various nuisances which arose in these properties was so unwarrantable that Court proceedings were decided on. With regard to eleven of these cases, however, the necessary work was completed before they could be brought before the Court, while in connection with the remaining three the defaulter was involved in payment of seven guineas as expenses.

Drainage. — The construction of drainage connected with the various housing schemes in progress during the year involved 456 applications of the smoke-test. Tests were also applied to 333 existing tenements, the drains, &c., in connection with which were believed to be defective. A large new school in Garngad was completed, and additional water-closet and lavatory accommodation was installed in six of the older schools.

Overcrowding.—16 per cent. of the ticketed houses visited by the night inspectors were found to be overcrowded, and, as this corresponds with the percentage of recent years, there is no indication that overcrowding in these small houses has diminished.

A record has been kept of overcrowded houses—ticketed and non-ticketed—discovered by the inspectors from time to time. The list embraces 1,118 houses which are grossly overcrowded, *i.e.*, no single apartment with fewer than five inmates and no two-apartment house with fewer than nine inmates is included. Details with regard to the degree of overcrowding in these houses are given in the following table. Also included in the table is the weekly income as stated by the tenants, and this is of interest in connection with the difficult problem of providing houses at rents proportionate to income.

PARTICULARS REGARDING 1,118 OVERCROWDED HOUSES.

Weekly Income.	Inmates of Households.								Total Number of Households.	Average Income.
	5	6	7	8	9	10	11	12		
ONE-APARTMENT HOUSES—										
Less than £3, ...	207	186	111	47	19	11	5	1	587	£2 1 9
Between £3 and £4. ...	41	46	35	17	16	7	2	1	165	3 4 10
Over £4, ...	8	5	7	10	9	7	5	—	51	4 10 8
	256	237	153	74	44	25	12	2	803	£2 9 7
	9	10	11	12	13	14	15			
TWO-APARTMENT HOUSES—										
Less than £3, ...	34	20	9	—	—	—	—		63	£2 5 5
Between £3 and £4, ...	46	22	13	1	—	—	—		82	3 7 7
Over £4, ...	55	55	31	20	6	2	1		170	5 0 8
	135	97	53	21	6	2	1		315	£4 1 0

The majority of the families included in the above list are residing in areas which are not likely to be dealt with under slum-clearance schemes; and, of the houses provided by the Corporation, the "intermediate" type is, therefore, the lowest-rented house for which they would be eligible. The rent of the three-apartment house of that type is 12s. 6d. per week, inclusive of rates, and, as will be observed, that sum is in most cases a considerable proportion of the income. With reference to the group of 587 tenants whose average weekly income is £2 1s. 9d., it is obvious that 12s. 6d. is more than they can afford to pay for rent and rates, and unless still cheaper houses can be provided they will have to depend, apparently, on the process of "decantation" to bring them a chance of securing more adequate accommodation.

Repair of Houses.—In addition to disrepair of dwelling-houses dealt with under the Public Health Act, notices calling for the repair of 472 houses were issued, in terms of Section 3 of the Housing Act, 1925. With regard to 48 of these, the owners failed to comply with the terms of the notices, and the necessary repairs were effected by the Master of Works Department.

Slum Clearance — Rehousing. — The 728 houses included in the Hamiltonhill Scheme became fully occupied during the year. The Campbell Street Scheme, which includes 138 houses, was in full occupation before the end of 1926. The great majority of the houses continue to be kept in good order, but it appears to be beyond question that frequent visitation of some of them is the only way of securing and maintaining a reasonable standard of cleanliness. The recent appointment of the special inspector, whose duty it is to deal with negligent tenants, has made closer supervision possible, and will tend towards further improvement.

Improvement of the general standard of domestic sanitation in Hamiltonhill has been attained somewhat unexpectedly by the gradual elimination of the type of tenant known as the "incorrigible." Since the commencement of the scheme, over sixty tenants have been ejected for non-payment of rent, while others have gone away to escape ejection. It is noteworthy that, besides being defaulters in the matter of rent-paying, these families were, with few exceptions, also definitely unsatisfactory from a sanitary point of view. This group may be taken as representative of the class least capable of improvement, and it is more than likely that, if they have not already done so, most of them will in time drift back to one or other of the slum areas yet to be dealt with. In one case, which is probably typical, a family of six—the husband, wife, and four young children—who were ejected from a two-apartment house, the rent of which was 6s. 6d. per week, were afterwards found living in a dark, single apartment in a back-land slum, for which they were paying 4s. 8d. per week. This difference of 1s. 10d. may or may not have meant a good deal to this couple, but it has certainly meant for them and their children the difference between healthy and unhealthy surroundings.

A tenement of 30 farmed-out houses included in the 1923 Scheme was demolished during the year. All the tenants had the offer of scheme houses, but only 17 accepted. 7 went to other farmed-out houses; 3 to houses in near-by tenements; while the remaining 3 went to unknown addresses. None of the families transferred to Hamiltonhill had furniture for the new houses, but this difficulty was got over to some extent at any rate, by the purchase from the house-farmer of the furnishings, or part of them, of the apartments they occupied. Excluding the iron bedstead provided by the Corporation, the following is a list of the articles of furniture in one of the houses:—A bed; two mattresses; bolster and pillows; two sheets; a blanket; a bed-cover; a table; three chairs; two pots; a kettle; a fender; five pictures; five dishcovers; and some odd dishes. With regard to the condition in which the houses have been kept, the inspectors' reports show, as a result of several inspections, that thirteen of them were clean and satisfactory; three were only fair; while one was ill-kept and dirty. The tenant of the last-mentioned house was ultimately ejected for non-payment of rent—evidently there was also here the combination of debt and dirt referred to above.

Fifty-two families were rehoused under the 1923 Scheme, and five under the 1926 Scheme.

Sanitary Conveniences.—Slum clearance operations have reduced the number of common water-closets, and further action along that line will result in the demolition of the tenements in which the accommodation is most grossly inadequate.

In many of the older properties the water-closets are badly situated. Usually they are found in dark, imperfectly ventilated compartments near the centre of the building, and to find an adequate remedy for such conditions is next to impossible without extensive reconstruction. With reference to the provision of water-closets for the use of shop employees, there is often difficulty in finding a situation for such accommodation that will be both convenient and suitable.

Forty-eight pan water-closets were removed during the year, and closets of a modern type substituted. Every opportunity is taken to induce owners to clear out these out-of-date and insanitary fittings but many of them still remain. Although the maintenance of these closets in passable repair entails considerable expense, it would appear that nothing short of a time-limit to their existence will secure their abolition within a reasonable period.

Most of the privies in connection with dwelling-houses are situated in outlying districts where there are drainage difficulties.

Burial Grounds.—There are six public cemeteries and one private burying ground within the division. Inspections of these revealed no infringements of the bye-laws. The exhumation and re-interment of three bodies was supervised.

Rats and Mice Act.—Operations for the destruction of rats were continued. Prior to "Rat Week," upwards of 1,400 circulars, describing the best means of effecting the destruction of rats, were issued to owners and occupiers of premises known to be infested, or liable to be infested, because of the nature of the business. From subsequent inquiries as to the extent of special operations carried through during the week, it appears that, while in most cases trapping and poisoning were resorted to with some success, with one or two exceptions, nothing on a large scale was attempted. In one case a rat-hunt was organised, and resulted in the killing of 120 rats. This was carried out in premises in which an offensive trade is conducted. As the rat population will always be in more or less direct ratio to the amount of food obtainable, the rat-proofing of all premises in which foodstuffs are stored is of great importance, and in dealing with rat-infested premises that is invariably found to be the only permanently effective remedy.

Verminous and Dirty Children.—Forty-two of the schools within the division are visited periodically by the female inspectors, for the purpose of dealing with verminous and dirty children. 410 such visits were made; and of the 5,993 children submitted for examination. 2,932 were found to be verminous, and 411 dirty, but not verminous. Suitable action was taken with regard to the cleaning of these children. and special visits were made to ensure that the home conditions reached a reasonable standard. Other duties undertaken by the female inspectors include house-to-house visitation in selected districts; the supervision of the houses included in rehousing schemes; and the inspection of workshops in which women only are employed.

Common Lodging-Houses.—Regular inspections of these were made. and only a few minor infringements of the bye-laws were discovered. They continue to be well-kept.

General.—Close and stair inspection for the purposes of enforcing the provisions of the Police Acts and the Bye-laws, the supervision of bakehouses and workshops, the spraying of stable dungpits for the suppression of flies, and other routine work do not call for special comment.

J. H. PATTERSON,
Divisional Sanitary Inspector.

29th March, 1928.

EASTERN DIVISION.

General Nuisances.—The number of nuisances recorded shows a slight decrease this year. This may be partly due to the demolition of several of the older insanitary properties. The nuisances discovered call for no special comment. They consisted of choked drains and water-closets, defective sanitary fittings, disrepair of houses, accumulations of garbage, &c. In no case was it necessary to take proceedings in court. Details as to numbers and nature of nuisances recorded in the respective wards will be found in Appendix (Table XXIII).

Cleansing of Closes and Stairs.—14,853 special visits were made with reference to the enforcement of the bye-laws for the washing and sweeping of closes, stairs, and water-closets. 1,375 rotation cards were prepared and delivered to tenants, and 2,541 verbal warnings were given. In the majority of cases, these cards and warnings had the desired effect, as only in three cases was it found necessary to bring defaulters before the magistrate.

Limewashing of Closes, Staircases, &c.—1,433 closes and staircases were limewashed as a result of notices under the Glasgow Police Act, 1866, being served on the owners. No appeals were lodged against any of the notices issued.

Offensive Trades.—Application was made under Section 32 of the Public Health (Scotland) Act, 1897, to establish the businesses of tallow melter, bone boiler, and manure manufacturer in premises situated in the Whitevale Ward. The application was, however, unanimously refused by the Corporation. The number of offensive trades, 44, remains the same.

Piggeries.—During the year one licence was withdrawn in the case of a piggery situated in the Shettleston and Tollcross Ward, owing to the premises not being the requisite distance from the new steel houses recently erected in the locality. There are now eight piggeries in the division licensed for 1,033 pigs. The premises for the most part are modern, and are well kept. 119 inspections were made, and only in one instance was it found necessary to warn the licensee.

Cemeteries. — One application was granted during the year for permission to inter the last member of a family in the family lair in the Calton Burying Ground.

Farmed-Out Houses. — There are 190 farmed-out houses on the register, as compared with 208 in the previous year, being a decrease of 18. The 21 farmed-out houses located in two back lands in the Mile-End Ward—which were included in the Glasgow Improvement Scheme, 1926, and referred to in last year's report—have now been demolished, but none of the sub-tenants was rehoused in any of the Corporation Rehousing Schemes, and accommodation had to be found elsewhere. 10 irregularities were discovered, and notices issued to the owners or keepers, but in no instance was it found necessary to take further action against the delinquents. 3,078 day inspections, and 953 night inspections were made.

Common Lodging-Houses.—In the division there are six common lodging-houses for males, and five for females, with accommodation for 2,305 males, and 503 females—2,808 inmates in all. The houses are well conducted and no overcrowding was discovered.

In one of the largest houses for males the lavatory accommodation, which was objectionably situated in the ground flat between the dining hall and the recreation room, was transferred to the basement flat, where ample light and ventilation are provided. The walls are tiled from floor to ceiling, and the most modern fittings have been installed.

Tents, Vans, and Sheds at Vinegarhill (*a new phase of the housing problem*).—This well-known showground, which was for long the rendezvous of travelling showmen and others, has in recent years been mostly occupied by miscellaneous collections of vans, sheds, and similar structures, many of which are in a worn-out and dilapidated condition. The conditions under which the occupiers of these structures are living are most squalid and insanitary.

The acute housing shortage during the last few years has brought this type of van dweller to the ground, viz., the family who have managed to secure anything resembling a van, and have made it their abode. A third type is the family occupying a van, which is let to them by the owner. These vans are usually let furnished, although, in some cases, they are let unfurnished, and they may be described as "farmed-out vans." The charges made are from six shillings to eight shillings per week.

The first of these types is the occupier of what may be called the legitimate van, *i.e.*, the van regarding which the present bye-laws were originally intended to apply. For these the ground is fairly well adapted, or could be made so with comparatively little difficulty.

The second type presents a different problem. In this case the vans or sheds are of almost every imaginable description, and most of them are in an advanced state of disrepair and dilapidation. They are owned by the occupiers, who, in many cases, have been in occupation for years, and who seem quite content with their surroundings. The lessee of the ground makes a charge of two shillings per week for each space occupied by a van.

The vans are used more or less as permanent abodes, in the sense that they have been occupied for all the purposes of dwelling-houses for long periods.

The "Farmed-out Van" (of which there were at one time twenty-eight on the ground, but which have recently been moved elsewhere) is the creation of enterprising individuals, who have seized the opportunity of providing shelters for homeless families on quite remunerative terms to themselves. These vans are structures of the most primitive description, and many are very meagrely furnished, and let to the occupiers at from six to eight shillings per week—two shillings going to the lessee of the ground.

The ground extends to about two acres, and a recent census showed that 163 vans of a miscellaneous order were in occupation; 84 of these may be classed as permanent residences, and 79 as "migratory." They are all huddled together, with scarcely any attempt at order, the density of the population being even greater than in many of the congested areas within the City.

The present bye-laws for tents, vans, and sheds, which are enforceable against the owner or occupier, are quite inadequate to meet the situation that has arisen at Vinegarhill. In view of the growth of this new phase of the housing problem, however, the Corporation are at present making application for further powers, to ensure that all vans or similar structures which are occupied as permanent dwellings will be more effectually controlled and regulated.

Factory and Workshop Act, 1901.—There are 632 workshops on the register, to which 5,203 inspections were made during the year. Fifteen workshops were found dirty, 2 were found defective in light and ventilation, and in other 6 nuisances of various kinds were discovered; in all, 23 notices were served on owners or occupiers, and the work was carried out to the satisfaction of the Inspectors.

Home Work Order. — 230 visits were made to the houses where home work is carried on. All were found clean and satisfactory.

Bakehouses. — 702 inspections of factory and retail bakehouses were made. A high standard of cleanliness is maintained, especially in the large factory bakehouses. 11 notices were issued in cases where limewashing was overdue, and 2 notices were served for other nuisances. The terms of the notices were duly attended to.

Rag Flock Act.—24 samples were procured for analysis, all of which conformed to the standard.

Drainage. — The smoke test was applied on 1,170 different occasions. 660 of these were applied for the satisfaction of the Dean of Guild Court, mostly in connection with Corporation housing schemes, and 510 were applied to older properties where there were reasonable grounds to suspect that the drains were defective.

Rat Week—A survey of all premises in the division known to be rat infested, and of those premises which were likely to be so infested, was made previous to Rat Week, with the result that a number of premises which were scheduled in last year's list were deleted, as the Inspectors found that, from the precautionary measures already taken, rats had ceased to invade the buildings.

1,058 circulars were sent out, principally to shops, grain stores, stables, offensive trades, and public works. The circulars gave ample advice with regard to the best means for destroying the vermin, and also invited co-operation with the officers of the Department.

Throughout the year 42 representations were made to owners of rat-infested properties, asking their co-operation with the occupiers in destroying the vermin, the results being quite satisfactory. In 9 instances premises were made rat-proof.

Repairs to Houses.—9,424 inspections were made in connection with slum-clearance schemes. A large amount of the Housing Inspectors' time was taken up in surveying and reporting on the existing housing conditions in a portion of the Calton Ward.

Closing Orders. — Notices under Section 3 (1) of the Housing (Scotland) Act, 1925, were served on the owners of three old front-land and three old back-land properties, containing 13 one-apartment, 15 two-apartment, and 3 three-apartment houses, making a total of 31 houses. At the end of the year the three front lands and two of the back lands had been demolished, and 11 of the displaced tenants rehoused.

Nurse-Inspectors' Work.—The Nurse-Inspectors' work consists in the inspection of all dirty and verminous children found in the schools under the control of the Education Authority, after which subsequent visits are made to the homes of the children who may be found dirty or verminous, and suitable advice and warnings are given to the parents. House-to-house visitation is also systematically carried on in the more squalid areas of the division. The extent and nature of the Nurse-Inspectors' work will be found in Appendix (Table XXIII).

In the case of four children found at school to be dirty and verminous, it was found necessary to take them to the Reception House and have them thoroughly cleansed. A hawker in the Calton Ward was brought before the Magistrate, who imposed a fine of 10s. 6d., or seven days' imprisonment, for failing to cleanse his house. During the year, 489 nuisances and 152 cases of infectious disease were reported by the Nurse-Inspectors; also 2,138 applicants were supplied with insecticide.

Night Inspection of Ticketed Houses.—There are now 4,821 ticketed houses on the register. This shows a reduction of 464 houses from the previous year, these having been demolished under the slum clearance schemes. 14,637 inspections were made, and 1,901 houses were found to be more or less grossly overcrowded. In one case, 18 persons were found in a single-apartment house, containing 1,000 cubic feet. There were two families living in this house. The inmates included the two husbands and the two wives, and 14 children, whose ages varied from 12 months to 16 years. The whole superficial area of the house was covered with bedding; one man was sleeping on the fender in front of the fire; while a child lay sleeping on a small table.

In another one-apartment house (containing 1,600 cubic feet) 11 persons were found. In the first bed, there were the mother and her three daughters, 18, 16, and 22 years; in the second bed a son-in-law, his wife, and four children, 7, 3, and 2 years, and a baby, 2 months; while on the floor lay a son, 23 years of age. While the cases mentioned may be extreme instances of gross overcrowding and mixing of the sexes, a great many families in the division, at the same time, have no alternative but to continue living under conditions only slightly less degrading.

Glasgow Improvement Scheme, 1926.—The operation of this scheme, so far as it applied to the Eastern Division, provided for the displacement of 377 families from 349 houses. At 31st December, 1927, 287 families had been displaced, and 270 houses closed. 204 of these families accepted the accommodation provided for them in the respective housing schemes; 43 families were provided for in substituted houses; and 40 families obtained accommodation elsewhere—90 families, occupying 79 houses, still, however, remain to be provided for.

Several of the properties have now been demolished, the sites being meantime left vacant. The site at Westmuir Street (No. 1 Area) has been cleared, and 36 tenement houses are to be erected thereon. This will be the first occasion on which a rehousing scheme has been erected on the site of the cleared area.

Rehousing Schemes.—It has been found that about 72 per cent. of the tenants displaced by slum-clearance schemes accept the houses provided for them in the rehousing schemes; 15 per cent. prefer "substituted" houses; and 13 per cent. find accommodation for themselves elsewhere.

Houses with more than one Family.—A disturbing element in most of the rehousing schemes in the division is the fact that so many houses are being occupied by lodger-families. In a recent survey it was found that 188 houses were so occupied; in 99 instances it was said they were relations of the householders; while the other 89 were simply lodgers.

It is not suggested that the overcrowding is of a serious nature, but the graver issues of the mixing of the sexes, with all its attendant evils, are involved. In the rehousing of the displaced tenants, the objects aimed at are being defeated through the introduction of lodger-families.

As mentioned in previous reports, considerable trouble has been experienced in dealing with slovenly tenants, who keep their houses in a dirty and unsatisfactory condition. In order that more concentrated supervision might be brought to bear on these recalcitrants, a Nurse-Inspector was appointed in August last, to devote her whole time to this special work. A note of the addresses of all houses which are classified by the female inspectors as "fair" and "dirty" is passed on to her to deal with, and the results have so far been quite satisfactory. It is only by sustained effort, combined with firm, yet sympathetic, supervision in dealing with this class of tenant, that improvement can be reasonably hoped for.

Nurse Matheson reports on her visits to the respective rehousing schemes in the Eastern Division as under :—

"*Newbank.*—Since the beginning of the year all the houses in this scheme have been occupied. 238 of the 358 tenants have kept their houses clean. Visits every three months have been paid to these houses.

In August last, 120 unsatisfactory tenants came under constant supervision. This involved monthly or more frequent visits. By the end of December, 40 of these houses were transferred to the "clean" list of houses. This result is promising, but, of course, backsliding must be expected, due to illness, or to other causes. The most noticeable advancement regarding the cleanliness of the houses is the improvement of the conditions of the bathrooms. The people are now beginning to grasp the importance of keeping the water-closets, baths, and wash-hand basins clean. More attention is also being paid to ventilation, hence the unhealthy smell so prevalent when the houses were first occupied is less noticeable.

The people seem to be happy in their new surroundings, but one still hears grumbles about the high rents.

Belvidere. — This scheme comprises 248 houses, all of which are occupied. It is satisfactory to report that only 45 of these houses require special visits. Some of the cleanest tenants moved from very dirty and dilapidated houses, and it is wonderful how tastefully the new houses are furnished, some of the furniture being home-made by the tenants themselves. Most of the occupants of the 'block' houses are interested in their gardens, which are divided by neat palings from well-kept gravelled paths.

Garvald Street.—When the 24 houses comprising this scheme were first occupied, one had the impression that many of them would turn out unsatisfactory, but by the end of 1927 a noticeable improvement had taken place.

Springfield Road.—291 of the 308 houses included in this scheme are now tenanted. This scheme is the least satisfactory of all in the division. 92 of the 291 houses have to be constantly visited. Perhaps this can be accounted for by the fact that these tenants have not yet had sufficient time to get educated up to the desirable standard of cleanliness.

Duke Street.—There are 216 houses in this scheme. The houses are being gradually filled up, as soon as they are ready for occupation. 106 occupied houses have been visited, and only one house was found dirty."

Sanitary Conveniences.—Since 1925 there has been a reduction of 31 water-closets used in common. This is accounted for by the closing or demolition of the slum-clearance schemes.

Water Supply.—The closing and demolition of the slum-clearance schemes has resulted in a decrease of 48 houses without water supply.

Privies.—There are 44 privies in the division. Six of these are in connection with dwelling-houses; one of these privies is used in common by two families, and the other five by individual families. The remaining 38 privies are in use in factories, stables, caravans, &c. As compared with the 1925 Report, this shows an increase of 10 privies, which is largely accounted for by inclusion of isolated houses within the recently-extended area of the division.

Ashpits. — There are 183 ashpits serving tenants in common—1 serving two tenants, 2 serving four tenants, and 180 serving five tenants or more. This is a reduction of two ashpits, as compared with the 1925 Report.

JOHN DONALDSON,
Divisional Sanitary Inspector.

26th March, 1928.

SOUTH-EASTERN DIVISION.

Nuisances.—The most important nuisance dealt with during the year was that arising from what has become known as the "Mosquito Ground," at Muirend. As the action taken has been fully described in another part of this Report, it is unnecessary to deal with the matter here. It may be mentioned, however, that since the cleaning out of the ditches, the farmer renting the ground for grazing purposes had to be communicated with, as the cattle were trampling down the banks, causing the ditches again to become silted up. On his attention being drawn to the matter, the farmer discontinued the grazing of cattle on the ground, and the water in the ditches is now running freely.

In the latter part of the year, a complaint was received with reference to a smoke nuisance arising from a kippering store. Observations made, particularly at night, when the nuisance was alleged to be at its worst, showed that, under certain weather conditions, the escaping smoke found its way into dwelling-houses in the vicinity whenever windows were opened. The owner agreed to carry out experiments with different forms of smoke outlets, with a view to adopting permanently such method as should prove effective in preventing a recurrence of the nuisance without adversely affecting his fish-curing process. These experiments are meantime being carried out.

The difficulty of adequately dealing with smoke and other nuisances arising from fish-curing establishments situated in congested areas is continually being met with, and the Local Authority should have powers to prevent the establishment of such businesses in unsuitable areas.

As a result of a communication from the Board of Health, a special inquiry was made as to the water-closet accommodation provided for shop assistants, and the following table shows in wards the number of shops having separate accommodation, the number of shops the assistants in which have the use of a water-closet in common with the occupiers of other premises, and the number for which no adequate nor convenient accommodation has been provided:—

Ward.	Number of Shops.	Number with separate accommodation.	Number using w.c's in common with other tenants.	Number without adequate or convenient accommodation.
26	579	103	436	40
27	1,562	611	767	184
33	416	160	247	9
34	308	94	211	3
35	462	158	269	35
36	301	94	205	2
37	195	53	142	—
Totals,	3,823	1,273	2,277	273

With reference to the 273 shops for which adequate or convenient accommodation has not been provided, action is being taken to improve matters. There are, however, considerable difficulties in the way, as, owing to the design and situation of many of these shops, it is not possible to find a suitable position inside where proper ventilation of the compartment, or even drainage facilities, can be got. Something considerably less than the ideal has therefore to be accepted, and this in most cases means the provision of a convenience in the close or entry through which access is gained to the houses above the shops. In such cases, it is usually impossible to find space for more than one convenience, and this, perforce, must be used in common by the employees, male and female, of all the shops in the property. Failing a suitable site in the close or entry, resort must be had to the common court behind the tenement. Experience has shown, however, that owing to the exposed nature of such positions, and the consequent lack of privacy in their approaches, employees, particularly females, decline to use the conveniences so placed, and these in time get into a state of disrepair, and become offensive and so give rise to nuisance.

Glasgow (Cowcaddens, &c.) Slum-Clearance Scheme, 1923.—Of the 284 occupied houses included in this scheme, only 22 remained in occupation at the beginning of the year, and these have now been closed and demolished.

Glasgow Improvement Scheme, 1926. — Towards the end of the year 1926, three tenements in which there were 58 houses, all of which had been included in this scheme, were condemned as dangerous buildings by the Dean of Guild. The tenants had accordingly to be rehoused immediately. In one of the houses there were two separate families, so that in all 59 families had to be accommodated. 55 of these were transferred to Corporation Rehousing Schemes.

In addition to those dealt with under slum clearance schemes, 19 tenants at 10-12 Thistle Street, 23 tenants at 229-237 Thistle Street, and 6 tenants at 56 Adelphi Street have had to be rehoused, these properties having been condemned as dangerous by the Dean of Guild.

Rehousing.—There are now three rehousing schemes in the division, namely, Polmadie, Govanhill, and M'Neil Street. To the two latter schemes, however, tenants began to be transferred towards the end of the year only, so that meantime a true estimate cannot be made of the condition in which the houses are being kept. In the former scheme, however, in which there were originally 102 houses, and to which a further 30 houses have recently been added, regular supervision has been maintained. Leaving out of consideration the 30 houses recently added, and taking the 102 houses which have been in occupation throughout the previous year, the following comparisons between the two years may be made. In the former year, after systematic visitation, the tenants were classed as to cleanliness or otherwise:—Clean, 41; fair, 54; dirty, 7. By continued supervision throughout this year, this classification has now become:—Clean, 63; fair, 30; and dirty, 9.

These figures do not, of course, show ideal results, but they do show results much beyond expectation. A steady effort has therefore been made to combat any retrograde tendency, and an analysis of the figures shows that this effort has met with a considerable amount of success. It is satisfactory, for instance, to observe that not one of the total of 41 tenants originally classed as "clean" has fallen from that category, and while only 5 of the 54 originally classed as "fair" have gone back to "dirty" class, 21 have actually so much improved as to be now classed as "clean." Even of the original seven "dirty" tenants, three have now improved—one to the "clean" category, and two to the "fair" class. It is here that the proposed new legislation, giving powers of immediate prosecution in cases where a house has been allowed to become dirty again within a period of, say, three months, would prove most beneficial.

An old self-contained house at 733 Aikenhead Road, which had become uninhabitable, has been voluntarily closed and demolished by the owner, the tenant having found accommodation elsewhere.

New Houses.—In addition to the rehousing schemes already referred to, 193 houses built by the Corporation at Govanhill, in Ward 35, have become occupied; while at Wellmeadow 175 houses, and at Shawlands 156 houses, all in Ward 34, have also become occupied during the year. 591 houses built by private enterprise, namely, 182 in Ward 33; 20 in Ward 34; 115 in Ward 36; and 274 in Ward 37 have been completed, and are now occupied.

Repair of Houses.—273 houses were found on inspection not to be in a reasonable state of repair, and notices were accordingly served upon the owners who had, or are having, the necessary work carried out.

Factories and Workshops.—1,611 visits were paid, and 18 notices requiring the occupiers to cleanse their premises were issued. In six instances, water-closets were found to be defective, and in six others, nuisance of a minor nature was discovered. These matters were all duly attended to.

Bakehouses.—324 visits were paid to bakehouses, 11 of which were found to be dirty, while in 7 others nuisance was discovered. These were all remedied on notices being issued.

Outworkers.—To these, 210 visits were paid, but no irregularities were found.

Water Storage Cisterns.—Visits to these numbered 223, and 86 which were found to be dirty were subsequently cleaned.

Limewashing.—930 notices to factors or owners of properties were issued calling for the limewashing of common closes, staircases, &c., and these were all attended to.

Piggeries.—24 visits were paid to piggeries, of which there are now only 4 on the register. During the year a large new housing scheme was erected in the vicinity of a piggery licensed to accommodate 450 pigs. The builders complained, on behalf of the tenants of the houses, of the proximity of the piggery. Under the piggery bye-laws, a pigstye must not be kept within 30 yards of any dwelling-house. In this case, while the actual pigstye nearest to the houses was slightly more than the required 30 yards, the piggery premises generally, including the dung-pit, were within that distance. Objection was taken to the renewal of the licence, but the Court decided to grant the application.

There is no doubt that the odours peculiar to a piggery are objectionable to most people, and in that sense constitute a nuisance. Such odours not only pervade but maintain their pungency over a greater area than 30 yards from the piggery. A pig-keeper may be put to considerable expense and inconvenience by the enforcement of the existing bye-law, as there is nothing to prevent anyone from building a dwelling-house within 30 yards of a pigstye, the onus being entirely on the pig-keeper not to keep his stye within that distance of a house. There is thus a decided restriction on the erection of up-to-date piggeries, as no one will expend the necessary money, knowing that he will be compelled to remove should someone build a house near by. A more equitable law would be to prohibit the erection of pigstyes within a specified distance (considerably more than 30 yards) from an existing dwelling-house, school, factory, or workplace, and also to prevent the erection of these within a similar distance of a pigstye.

Common Lodging-Houses.—20 day visits and 4 night visits were paid to these houses, which were on all occasions found in good order.

Farmed-Out Houses. — At the beginning of the year there were 118 farmed-out houses on the register, but 22 of these have now been removed, having been demolished under a slum - clearance scheme. All the houses were regularly inspected, 1,216 day visits and 209 night visits having been paid. The keepers were at once notified of any irregularities, and these were immediately remedied.

Drainage.—There has again been a considerable increase in the drainage work carried out under the supervision of the Department. The smoke-test was applied on 1,969 occasions, as compared with 1,160 occasions last year. At two farms in the recently-added area complete new drainage systems were provided, and, as there was no convenient sewer available, small septic tanks had to be constructed at both farms. This work permitted the removal of privies and the substitution of water-closet accommodation.

There are about 60 privies in the added area which cannot meantime be removed, there being no drainage facilities available for water-closets.

Cleansing of Closes, Stairs, &c.—2,514 visits were paid to enforce the bye-laws regulating the cleansing of closes, stairs, &c. In the majority of cases a warning was sufficient to ensure that the required cleansing would be carried out. In all other cases rotation cards (568) fixing the tenants' turns of cleansing were served, and these proved effective, no Court proceedings being necessary.

Dirty Houses.—There was only one case necessitating Court proceedings, although other 495 tenants whose houses were dirty and 111 tenants who had allowed their bedding to get into a dirty state had to be notified to have the necessary cleansing operations carried out.

Verminous and Dirty Children. — There are 38 schools in the division, and of these 27 require to be visited regularly for the detection of dirty and verminous children. 475 visits were paid, and of the 7,504 children submitted for examination, 1,043 were found to be verminous and 258 dirty. The homes of these children were subsequently visited, and the parents or guardians were notified. On re-examination at school, all the children were found to have been cleaned and freed from vermin. In connection with the home visits, 47 houses were found to be dirty, and in 40 cases the bedding required to be cleansed. The householders were accordingly called upon to carry out the necessary cleansing.

DUNCAN THOMSON,
Divisional Sanitary Inspector.

26th March, 1928.

SOUTH-WESTERN DIVISION.

Nuisances. — The inspections for the discovery and removal of nuisances numbered 179,167; 15,859 complaints were registered and 15,598 removed. The nuisances were of that varied kind common to populous areas; none of them calls for comment, and in no case was it necessary to have recourse to Court proceedings.

Drainage. — The position as regards house drainage is unsatisfactory, in respect that two standards are in operation. Under one standard the existing drainage bye-laws are enforced in full, and the other allows of their modification, particularly as regards trapping. Such divergencies of practice lead to misunderstanding; the bye-laws should be revised in accordance with present-day experience, and a uniform code adopted, thereby ensuring that sense of security which is the principle underlying the enforcement of drainage bye-laws.

HOUSING.

New Houses.—81 self-contained and semi-detached houses were built in Cardonald, Crookston, Dumbreck, and Pollokshields. The Corporation scheme at Summertown Road, comprising 234 houses of three and four apartments, is approaching completion, and at the end of the year 192 houses had been occupied. The Corporation Brand Street Scheme, which consists of 156 houses of three and four apartments, is so far advanced that several of the tenements will be ready for occupation at the beginning of the year. It belongs to the class known as the intermediate type — that is, intermediate between the usual housing-scheme house and the rehousing (slum-clearance) scheme house, and is being provided for the citizen who is unable to pay the rent of the former class and is ineligible for the latter class of house, preference being given to families living in overcrowded houses. Their influence in relieving overcrowding and easing the housing situation generally is being looked forward to with much interest.

Slum Clearance.—Under the 1927 Improvement Scheme, 84 houses have been included for demolition, bringing the total number of houses in the division included in slum-clearance schemes to 406, of which 192 have been closed, and the majority of which have been demolished.

The families removed under the 1923 and 1926 Schemes numbered, as at 31st December, 157 and 39 respectively, a total of 195. Of the displaced families, 149 (76·5 per cent.) were transferred to rehousing schemes, and exchanges by 20 scheduled families (10·2 per cent.) were effected with a similar number outside the scheme, who, in subsitution, were rehoused in the new houses. The remaining 26 (13·3 per cent.) include 10 families who had been in lodgings in scheduled houses (and for whom alternative accommodation had been provided), and who, failing to take advantage of the offer of new houses, went to other lodgings; 4 persons (2 per cent. of the total families) living alone in their houses, and who died during the currency of the schemes; and 12 families who removed to houses elsewhere than in the rehousing schemes, either voluntarily (exclusive of the tenants who effected exchanges) or because of non-payment of rent. The 20 families who exchanged went, of course, to the houses of the tenants with whom the substitutions were made; 10 "lodger" families went to lodgings elsewhere, and of the other 12 families who did not go to the new houses, of 4 who had had houses of their own, 3 removed to other houses and 1 went to lodgings, and 8 (4·1 per cent.) who had been ejected for arrears of rent went to lodgings.

The following statement shows the position, in tabular form, as at the end of this year :—

1923 and 1926 Improvement Schemes.

Direct transfers to rehousing schemes, ...	149	(76·5%)
Substituted to rehousing schemes, ...	20	(10·2%)
Removals, voluntary (exclusive of exchanges to houses elsewhere than in rehousing schemes), ...	3	(1·5%)
Removals, voluntary, from house to lodgings, ...	1	(0·5%)
Removals, voluntary, from lodgings to lodgings, ...	10	(5·1%)
Removals on account of non-payment of rent, ...	8	(4·1%)
Deaths, ...	4	
Families displaced as at 31st December, 1927,	195	

The families either unable or unwilling to pay the rents of the new houses represent 21·5 per cent. of the total, and some of them may be said to form part of the floating slum population.

Closing Orders. — 14 houses were closed permanently, the dispossessed tenants being housed in the rehousing schemes.

Houses closed voluntarily.—Two houses obviously unfit for human habitation were closed voluntarily on becoming temporarily vacant, and on their condition being then brought under the landlords' notice.

Houses closed otherwise than by Closing Order or voluntarily.—Following on the damage done to a property during the hurricane of January last year, whereby several persons were killed and others injured, the 12 houses comprising the tenement were closed by order of the Dean of Guild. The displaced tenants were provided with alternative accommodation in the housing schemes.

In last year's Report reference was made to a property acquired by the owners of an adjoining picture house, for an extension thereof, who delayed repairing a water pipe until proceedings had been instituted in the Sheriff Court. The owners have since attained their object, all the tenants having now vacated their houses, in spite of the protection afforded by the Rent (Restrictions) Acts, with the result that thirteen serviceable houses are standing empty, and, as soon as plans are passed by the Dean of Guild Court, are likely to be demolished, to make way for the contemplated extension of the picture house. The closure of good houses for such a purpose during the present housing shortage gives rise to a feeling of regret that the Housing (Additional Powers) Act, 1919, which provided safeguards in proposed demolitions, has been repealed, as such a case as this suggests the need for some similar powers remaining operative during the present acute housing shortage.

Repair of Houses. — 180 houses were repaired, following upon notices issued under the Housing Act; in several instances the necessary repairs were, on default of the landlords, carried out by the Master of Works at their expense.

Overcrowding. — This aspect of the housing question was dealt with at length in last year's Report; there is no indication that the overcrowding is diminished. Meantime the overcrowding evil is so clamant that its seriousness cannot be overlooked, and its ramifications so widespread that its potential dangers cannot be over-estimated.

Rent Restrictions Acts.—13 applications for certificates by tenants and 1 by an owner for a report that the works specified in a certificate had been carried out were granted.

Whitefield Rehousing Scheme.—1,105 visits were made to the 114 houses of this scheme. 9 notices were served upon occupiers who failed to keep their houses in a cleanly condition, and 1 occupier was convicted in the Police Court for failing to comply with a notice. The continuous strict enforcement of the statutory sanitary obligations of the indifferent occupiers, combined with the encouragement of those amenable to persuasion, has given gratifying results, as will be seen from the following remarks, which show that at the end of the year not a single house fell to be classified as "dirty."

The classification of the houses for this year is as follows:—Very clean, 44 (38·5 per cent.); clean, 61 (53·5 per cent.); fairly clean, 9 (8 per cent.); dirty, none. The following table shows the state of the houses during the two completed years of their occupancy:—

	1927.		1926.	
Very clean, ...	44 (38·5%)	92%	29 (25·2%)	72%
Clean, ...	61 (53·5%)		53 (46·5%)	
Fairly clean, ...	9 (8%)		23 (20·2%)	
Dirty, ...	None		9 (8%)	

Leaving out of consideration for the moment changes of occupancy, which are referred to later, the records show that 10 of the houses formerly classified as "clean" have been raised to the "very clean" category; 21 houses formerly "fairly clean" are now recorded as "clean"; 6 classified as "dirty" in 1926 are so improved as to warrant their inclusion under the heading "clean"; 2 formerly in the "dirty" category have shown a slight improvement and are now classified as "fairly clean," while 1 shown as "clean" in 1926 failed to maintain its last year's position and has fallen to the "fairly clean" category. With regard to the houses classified "dirty" in 1926, it may be recalled that this classification was then defined thus:—"While those houses cannot be said to be dirty in the sense in which that term is applied to a house which has been long in occupation and shows evidence of disrepair, the almost persistent untidiness in which they were found leaves no other suitable alternative but to include them in the "dirty" category."

Of the 9 houses classified as "dirty" last year 6 have been raised to the "clean" category (4 after the service of notices and including the case where the prosecution followed, and 2 without such judicial aids to improvement); and 3 (on 2 of whom dirty-house notices were served) are, as already stated, now classified as "fairly clean." In connection with the changes of occupation during the year 5 of the houses have been classified as "very clean," 5 as "clean," and 1 as "fairly clean," the newcomers, on the whole, proving of a relatively higher average category than their predecessors.

These figures show a steady improvement, brought about mainly by the strict enforcement of the powers relating to sanitation within the house and continuous inspection and re-inspection, and in a lesser degree through changes of occupancy.

In February an occupier was proceeded against in the Police Court for not keeping his house in a cleanly condition. He pled guilty, and was fined in 10s., with the alternative of five days' imprisonment. The need for such proceedings against an occupier in a rehousing scheme (where every facility is afforded for keeping a clean house) raised the question as to whether the penalty under the Confirmation Order, 1904 (a fine not exceeding 40s., with the alternative of imprisonment), is a sufficient and suitable deterrent, and, if not, whether in addition, action should be taken under the circumstances to have the occupant ejected as an undesirable tenant. Bearing in mind that it is better to have a dirty tenant under observation than to lose sight of him temporarily, and in view of the fact that, this being the first prosecution of its kind in a rehousing scheme, the proceedings, combined with continued supervision, might have the desired effect of getting the house kept clean in future (which, in fact, it did), it was decided not to proceed to extreme measures, and the result has justified this course.

The prosecution had a salutary effect in more than one respect, and accounts in part for some of the general improvement. For some time previous to these proceedings a good deal of scarcely veiled opposition was growing against the frequent inspections being made, some of the occupants going so far as to question the right of the officers getting access to the houses, but eventually (partly as the outcome of the prosecution) this feeling of resentment exhausted itself and there is now open acquiescence of the right of inspection. This hesitancy to admit the officers freely was most noticeable amongst the occupiers who failed to reach the higher categories, and in order to dispel any doubt as to the right to visit such houses, reference is made to the powers so conferred by the Housing (Scotland) Act, 1925, which enacts that a dwelling-house in a rehousing scheme shall *at all times* be open to the inspection of the Local Authority or of any officer from time to time authorised by the Local Authority, and also that any person who obstructs an officer of the Local Authority authorised to enter such houses shall be liable to a fine not exceeding twenty pounds.

In those instances where houses are invariably found clean, the usual customary inspection is dispensed with as a waste of time, though a general oversight is kept on such houses. This discrimination has given rise to a little feeling on the part of some of the others, and, while there may be something to be said for their point of view, the remedy lies in their own hands.

A pleasing feature, and one worthy of mention, as showing the pride which some of the occupiers take in decorating their houses, is the number of instances where the occupiers, finding the distemper on the walls not quite to their liking, and having decided that wallpaper does not suit their purpose to advantage, have, at no little cost to themselves, painted the walls, in some cases the walls of all the apartments, including the bathroom, being so treated.

The lady-inspectors have been most assiduous in the duty of supervising these houses, and the improvement recorded is in great part the result of their knowledge of this kind of work, including, as this does, the faculty of bringing out the best that is in the housewife who is anxious to do well, but who, for reasons which need not be entered into here, finds this occasionally somewhat difficult of achievement.

Strict supervision is also exercised with regard to the sweeping and washing of the closes and stairs, and the records show that throughout the year each close and stair was washed twice a week as required by the bye-laws.

SURVEY OF SANITARY CONVENIENCES USED IN COMMON.

In order that the figures in this part of the Report may be comparable with those of the previous year, the notes which follow deal with (*a*) the division as it was at the beginning of 1926; (*b*) the area added at Whitsunday, 1926; and (*c*) the division as at the end of 1927.

Conversion to Water-Carriage System.—1 dry closet and 2 privy-middens used in common by two or more tenants were converted to the water-carriage system. The latter were in the added area.

(i) *Water-Closets used in Common*, serving 2, 3, 4, and 5 or more tenants, number 1,093, 1,889, 1,190, and 387 respectively, a total of 4,559, of which 14 are in the added area, compared with 4,537 at the beginning of 1926.

(ii) *Houses without Water Supply and Sinks Inside the House* at the beginning of 1926 numbered 42. At Whitsunday of that year there fell to be added 16 (into 6 of which water and sinks had been introduced at the end of the year) in the added area, a total of 58, and at the end of 1927 the number had fallen to 35. The decrease is due mainly to the enforcement of the provisions of the Police Act, and in a lesser degree to the demolitions under the slum-clearance schemes.

(iii) (a) *Dry Closets used in Common*, and serving 2, 3, and 4 tenants, number 5, 1, and 1 respectively, a total of 7, of which 4 are in the added area, compared with 3 at the beginning of 1926.

(b) *Privy-Middens which are Common* number 3, and all are common to two tenants and are in the added area. At the beginning of 1926 there were no common privy-middens, but at Whitsunday, 1926, there fell to be included 5 in the added area, 2 of which had been demolished and converted into water-closets at the end of 1927.

(c) *Ashpits*—The ashpits serving 2, 3, 4, and 5 or more tenants are 10, 1, 10, and 1,462 respectively, a total of 1,483, compared with 1,477 at the beginning of 1926. The quota from the added area was 25. A few ashpits in Govan and Fairfield Wards were converted to ashbins; the slum-clearance demolitions account for the remainder of the difference.

Improvements Effected.—In 1926, 12 additional water-closets were provided, and sinks and inside water supplies were fitted in 13 houses, and in 1927 the numbers were 20 and 6 respectively, including 4 water-closets and 6 sinks in houses in the added area. The foregoing include several instances where the tenants using common water-closets exceeded the proportion of 4 tenants to 1 convenience, and also cases where separate accommodation was provided for individual tenants. These improvements were consequent on action taken under the Police Act. Two privy-middens in the added area and 1 dry closet were converted to the water-carriage system, and 1 dry closet was abolished.

The number of common ashpits is being slowly reduced. These predominate at tenements in that part of the division which formerly was the Burgh of Govan. The Glasgow Provisional Order of 1927 extends to the areas added to the City in 1912 the powers of the Glasgow Building Regulations Act, 1900, from which they had been specially exempted hitherto, and it is anticipated that the gradual conversions to the bin system will result from the additional powers just granted. Ordinarily the series of ashbins at a tenement is preferable to an ashpit, and some modern ashpits (which are not pits in any sense of the term) are admirably designed for the purpose for which they were erected, but the twice-a-week bin service in lower-class property is of doubtful utility, and particularly where the back-courts may be very small, or where they are common to two or more tenements, and where consequently the number of bins in a shelter is larger than usual. Its shortcomings are matters of almost daily observation, and experience goes to show that in property of this class the ashbin system leaves much to be desired, irrespective of the admittedly careless and culpable habits of many of the tenants.

Factory and Workshop Act, 1901.—Routine inspection was carried out in workshops; factories are visited as occasion demands. The systematic inspection of factory and workshop bakeries was observed. One underground factory bakehouse was closed on the expiry of its lease. Two workshop bakehouses which were unfit, on sanitary grounds, for use or occupation as bakehouses were closed, following upon the service of notices; their closing was effected without recourse to Court proceedings. Notices, issued principally with regard to the neglect of the prescribed limewashing, want of cleanliness of premises or utensils, and disrepair, were duly complied with. The facilities for washing, cloak-room accommodation, &c., required by the new Order under the Police, Factories, &c. (Miscellaneous Provision), Act, 1916, for securing the welfare of the workers employed in bakehouses, the enforcement of which is exercised by H.M. Inspector of Factories, were provided in the bakehouses where these had been lacking.

Seasonal Workers. — During the autumn months a number of potato diggers of both sexes were housed at a farm in the Cardonald district, and steps were taken to ensure comfortable housing conditions and suitable sanitary accommodation during their stay.

Destruction of Rats.—As in former years, it was found that where rats exist steps are, as a rule, taken throughout the year to exterminate them, and during "Rat Week" a special endeavour is made in this direction. During "Rat Week" 483 circular letters were sent to occupiers of premises likely to be infested with rats, and 165 cards, on which are printed instructions as to the destruction of rats and the making of buildings rat-proof, were distributed for exhibition in such premises. In all cases where rats were found it would appear that the occupiers are diligent in their attempts to destroy and exterminate them, and in no case was it found that an occupier had allowed his premises to become overrun with rats and had failed to take steps for their destruction. The institution of "Rat Week" tends to an added interest being taken in the destruction of rats which in many places goes on throughout the year.

Burial Grounds.—The burial grounds are regularly inspected; no contravention of the bye-laws fell to be dealt with. At one of the cemeteries special inspections were made with regard to the burials in the common ground, and it was found that the spirit and the letter of the bye-laws were being observed.

General.—The activities of the officers were also directed to the enforcing of the various provisions affecting offensive trades, rag flock, common lodging-houses, houses let-in-lodgings, farmed-out houses, seamen's boarding-house, ticketed houses, dirty school children, dirty houses, dirty staircases, dirty closes and stairs, tents and vans, piggeries, and the suppression of flies in stable dungsteads, and such other complaints coming under their notice which required attention. None of them calls for special comment, and figures in connection with these will be found in the appended Table XXIII.

JAMES REID,
Divisional Sanitary Inspector.

31st January, 1928.

APPENDIX.

TABLE I.—Glasgow, 1927.—ESTIMATED POPULATION in each Municipal Ward, Acreage, and Persons per Acre.

Municipal Wards.	Population.				Acreage.	Persons per acre (including Institutions and Shipping.)
	Without Institutions and Shipping.	Institutions.	Shipping.	Total.		
1. Shettleston and Tollcross, -	36,060	71	...	36,131	1,022	35
2. Parkhead, - -	39,232	1,299	...	40,531	883	46
3. Dalmarnock, -	41,952	34	...	41,986	288	146
4. Calton, - -	36,185	1,845		38,030	333	114
5. Mile-end, - -	25,761	50	...	25,811	191	135
6. Whitevale, - -	24,669	656	...	25.325	176	144
7. Dennistoun, -	22,765	319	...	23,084	280	82
8. Provan, - -	36,166	751	...	36,917	1,284	29
9. Cowlairs, - -	24,544	2,152	...	26,696	456	59
10. Springburn, -	20,378	3.044	...	23,422	2,261	10
11. Townhead, - -	28,647	1,564	...	30,211	175	173
12. Exchange, - -	16,882	2,808	...	19,690	289	68
13. Blythswood, -	13,532	2,241	75	15,848	242	65
14. Anderston, - -	28,466	1,115	1,851	31,432	422	74
15. Sandyford, - -	22,033	460	...	22,493	152	148
16. Park, - - -	22,219	219	...	22,438	272	82
17. Cowcaddens, -	40,247	709	9	40,965	488	84
18. Woodside, - -	36,866	899	...	37,765	170	222
19. Ruchill, - -	30,454	1,157	2	31,613	1766	18
20. North Kelvin, -	23,892	26	...	23,918	146	164
21. Maryhill, - -	25,266	1,522	...	26,788	1,391	19
22. Kelvinside, -	22,957	1,058	...	24,015	1,127	21
23. Partick (East), -	30,449	1,123	...	31,572	268	118
24. ,, (West), -	27,200	88	152	27,440	357	77
25. Whiteinch, -	41,545	736	12	42,293	2,696	16
26. Hutchesontown, -	41,648	30	...	41.678	389	107
27. Gorbals, - -	50.787	667	...	51,454	252	204
28. Kingston, - -	33,745	199	172	34,116	285	120
29. Kinning Park, -	37,762	580	491	38,833	379	102
30. Govan, - -	37,558	344	13	37,915	529	72
31. Fairfield, - -	33,638	2,091	14	35,743	1,402	25
32. Pollokshields, -	29,488	1918	...	31,406	4.678	7
33. Camphill, - -	21,138	115	...	21,253	366	58
34. Pollokshaws, -	22,126	...	...	22,126	1.847	12
35. Govanhill, - -	32,069	242	...	32,311	365	89
36. Langside, - -	18,654	659	..	19,313	557	35
37. Cathcart, - -	18.113	...	...	18,113	1,327	14
City, - -	1,095,093	32,791	2,791	1,130,675	29,511	38

TABLE II.—GLASGOW, 1927.—INHABITED AND UNOCCUPIED HOUSES IN EACH MUNICIPAL WARD.

MUNICIPAL WARDS.	INHABITED HOUSES.*				Empty Houses.
	1927.	1926.	Decrease.	Increase.	
1. Shettleston and Tollcross, -	7,441	7,099	...	342	10
2. Parkhead, - - -	8,528	8,228	...	300	2
3. Dalmarnock, - - -	9,130	9,134	4	...	2
4. Calton, - - - -	8,304	8,366	62	...	13
5. Mile-end, - - - -	5,665	5,710	45	...	1
6. Whitevale, - - -	5,542	5,558	16	...	2
7. Dennistoun, - - -	5,683	5,687	4	...	8
8. Provan, - - - -	7,942	7,859	...	83	5
9. Cowlairs, - - - -	5,651	5,651	...	...	2
10. Springburn, - - -	4,368	4,157	...	211	4
11. Townhead, - - -	6,496	6,513	17	...	7
12. Exchange, - - -	3,974	4,015	41	...	11
13. Blythswood, - - -	2,904	2,958	54	...	12
14. Anderston, - -	6,338	6,413	75	...	6
15. Sandyford, - - -	4,852	5,258	406	...	20
16. Park, - - - -	5,187	5,221	34	...	35
17. Cowcaddens. - - -	9,080	9,128	48	...	7
18. Woodside, - - -	8,475	8,489	14	...	8
19. Ruchill, - - -	6,814	6,451	...	363	5
20. North Kelvin, - - -	5,733	5,737	4	...	18
21. Maryhill, - - - -	5,428	5,426	...	2	6
22. Kelvinside, - - -	5,727	5,522	...	205	78
23. Partick (East), - - -	6,902	6,923	21	...	24
24. ,, (West). - -	6,494	6,499	5	...	9
25. Whiteinch, - - -	9,123	8,209	...	914	31
26. Hutchesontown, - -	9,449	9,457	8	...	4
27. Gorbals, - - - -	10,848	11,015	167	...	23
28. Kingston, - - - -	7,216	7,278	62	...	8
29. Kinning Park, - - -	8,376	8,340	...	36	7
30. Govan, - - -	7,741	7,751	10	...	6
31. Fairfield, - - - -	7,350	7,117	...	233	2
32. Pollokshields, - - -	7,187	7,055	...	132	34
33. Camphill, - - - -	5,605	5,518	...	87	10
34. Pollokshaws, - - -	5,240	5,069	...	171	10
35. Govanhill, - - -	7,545	7,497	...	48	8
36. Langside, - - - -	4,783	4,754	...	29	13
37. Cathcart, - - - -	4,398	4,149	...	249	8
CITY, - - -	247,519	245,211	...	2,308	459

* Includes Inhabitant Occupiers.

TABLE III.—GLASGOW.—LININGS GRANTED BY DEAN OF GUILD COURT IN YEARS FROM 1915 TO 1927 IN RESPECT OF HOUSES.

Year ending 31st August.	No. of Apartments.						Total.
	1.	2.	3.	4.	5.	6.	
1915.	63	156	120	32	35	48	454
1916.	1	...	2	...	12	1	16
1917, ...	...	...	...	...	...	...	...
1918, ...	...	64	28	...	...	...	92
1919, ...	...	...	144	78	...	...	222
1920, ...	...	12	1,239	414	214	57	1,936
1921, ...	...	...	1,176	981	240	34	2,431
1922, ...	...	...	65	99	39	31	234
1923, ...	...	680	286	205	104	46	1,321
1924, ...	...	357	991	605	745	82	2,780
1925.	...	504	674	111	44	61	1,394
1926, ...	...	318	4,649	967	769	93	6,796
1927.	...	228	2,889	1,209	802	55	5,183

TABLE IV.—ABSTRACT OF METEOROLOGICAL OBSERVATIONS TAKEN AT SPRINGBURN PUBLIC PARK.

Months. 1927.	Temperature.			Rainfall.		Sunshine.
	Highest Temperature in Shade.	Lowest Temperature in Shade.	Mean Temperature.	No. of Days it fell.	Amount Collected, in inches.	Hours.
January, ...	52	22	39·2	27	5·05	23·5
February, ...	50	24	38·9	17	2·73	38·2
March, ...	61	29	43·1	19	3·32	86·2
April, ...	55	26	43·7	23	2·86	150·5
May, ...	77	28	49·0	13	2·34	161·7
June, ...	67	36	52·5	21	5·53	187·6
July, ...	76	47	60·1	23	4·88	135·1
August, ...	73	44	58·2	27	6·74	123·7
September, ...	72	37	52·2	23	5·74	91·6
October, ...	69	29	48·9	17	5·29	79·3
November, ...	60	23	41·6	20	3·66	57·6
December, ...	49	20	34·1	15	0·98	27·3
1917, ...	74	20	46·7	194	36·67	1,122
1918, ...	78	10	47·5	237	41·36	1,082
1919, ...	75	12	46·2	186	30·93	1,341
1920, ...	75	26	48·1	230	43·88	1,030
1921, ...	82	22	48·5	249	43·23	1,228
1922, ...	79	31	46·8	228	32·87	1,089
1923, ...	83	20	46·4	260	44·64	1.036
1924, ...	74	18	46·1	256	39·72	973
1925, ...	83	18	46·7	222	38·24	1,224
1926, ...	86	22	47·7	242	45·91	1,174
1927, ...	77	20	46·8	245	49·12	1,162

The records for years previous to 1921 were taken at Glasgow Observatory.

TABLE V.—GLASGOW.—BIRTHS AND BIRTH-RATES *per Million* IN EACH WARD, FOR THE YEAR 1927, AND NUMBER AND PERCENTAGE OF ILLEGITIMATE BIRTHS.

MUNICIPAL WARDS.	Births. 1927.	Illegitimate Births		Birth-rate 1927.	Birth-rat 1926.
		No.	°/₀ Total Births.		
1. Shettleston and Tollcross, ...	759	48	6·3	21,048	24,534
2. Parkhead, ...	963	56	5·8	24,546	24,595
3. Dalmarnock, ...	1,149	62	5·4	27,388	29,854
4. Calton, ...	1,010	78	7·7	27,912	29,708
5. Mile-end, ...	772	51	6·6	29.968	31,047
6. Whitevale, ...	592	31	5·2	23,998	26,395
7. Dennistoun, ...	316	14	4·4	13,881	12,994
8. Provan, ...	965	32	3·3	26,683	25,444
9. Cowlairs, ...	423	16	3·8	17,234	20.577
10. Springburn, ...	457	22	4·8	22,426	21.482
11. Townhead, ...	587	45	7·7	20,491	22,531
12. Exchange, ...	468	48	10·3	27,722	29,434
13. Blythswood, ...	305	35	11·5	22,539	23.141
14. Anderston, ...	706	52	7·4	24,802	28,435
15. Sandyford, ...	450	50	11·1	20,424	22,157
16. Park, ...	256	31	12·1	11.522	11,223
17. Cowcaddens, ...	1,108	72	6·5	27,530	29,342
18. Woodside, ...	834	54	6·5	22,622	24.427
19. Ruchill, ...	735	39	5·3	24,135	23,947
20. North Kelvin, ...	394	16	4·1	16,491	18,321
21. Maryhill, ...	543	19	3·5	21,491	22,234
22. Kelvinside, ...	206	10	4·9	8,973	8,358
23. Partick (East), ...	596	41	6·9	19,574	21,087
24. ,, (West), ...	507	21	4·1	18,640	18,626
25. Whiteinch, ...	702	32	4·6	16,897	17,181
26. Hutchesontown, ...	1,033	50	4.8	24,803	26,847
27. Gorbals, ...	1,399	111	7·9	27,546	27,268
28. Kingston, ...	887	68	7·7	26,285	27,708
29. Kinning Park, ...	945	63	6·7	25,025	25,001
30. Govan, ...	890	38	4·3	23,697	27,763
31. Fairfield, ...	672	37	5·5	19,977	20,455
32. Pollokshields, ...	341	12	3·5	11,564	13,767
33. Camphill, ...	214	7	3·3	10,124	12,833
34. Pollokshaws, ...	353	17	4·8	15,954	16,197
35. Govanhill, ...	541	19	3·5	16,870	15,473
36. Langside, ...	206	11	5·3	11,043	12,376
37. Cathcart, ...	207	9	4·3	11,428	10,177
Institutions, &c., ...	87	29	—	—	—
CITY, ...	23,578	1,446	6·1	20,853	22,099

BLE VI.—GLASGOW.—DEATHS and Death-rates *per Million* in each Municipal Ward, for the Year 1927, and Corresponding Rates for 1926 and 1925.

Municipal Wards.	Deaths. 1927.	Death-rates.		
		1927.	1926.	1925.
1. Shettleston and Tollcross, ...	467	12,951	12,675	11,576
2. Parkhead, ...	507	12,923	12,575	11,844
3. Dalmarnock, ...	611	14,564	15,249	14,487
4. Calton, ...	621	17,162	16,239	17,612
5. Mile-end, ...	419	16,265	17,565	17,732
6. Whitevale, ...	398	16,134	13,824	13,605
7. Dennistoun, ...	242	10,630	11,326	10,443
8. Provan, ...	456	12,609	13,835	11,535
9. Cowlairs, ...	298	12,141	11,287	10,224
0. Springburn, ...	227	11,139	9,890	11,040
1. Townhead, ...	399	13,928	14,591	13,609
2. Exchange, ...	308	18,244	17,590	16,849
3. Blythswood, ...	253	18,696	16,032	17,460
4. Anderston, ...	459	16,125	14,651	15,606
15. Sandyford, ...	331	15,023	14,534	15,393
16. Park, ...	312	14,042	11,402	12,410
17. Cowcaddens, ...	622	15,455	15,252	15,848
18. Woodside, ...	520	14.105	14.922	14,433
19. Ruchill, ...	407	13,364	10,516	10,661
20. North Kelvin, ...	247	10,338	11,461	10,072
21. Maryhill, ...	288	11,399	11,715	11,120
22. Kelvinside, ...	238	10,367	10.120	10,526
23. Partick (East), ...	404	13,268	13.458	13,814
24. ,, (West), ...	317	11,654	10,470	11,415
25. Whiteinch, ...	395	9,508	10,217	9,964
26. Hutchesontown, ...	571	13,710	13,555	12,927
27. Gorbals, ...	822	16,185	17,164	15,566
28. Kingston, ...	553	16,388	15,308	16,849
29. Kinning Park, ...	515	13,638	13,485	13,452
30. Govan, ...	531	14,138	13,908	14,684
31. Fairfield, ...	355	10,554	11.425	11,277
32. Pollokshields, ...	299	10,140	10,578	10,275
33. Camphill, ...	255	12,064	11,151	9,982
34. Pollokshaws, ...	278	12.564	12.471	9,515
35. Govanhill, ...	352	10,976	9,949	9,979
36. Langside, ...	236	12,651	9,241	10,100
37. Cathcart, ...	159	8,778	8,706	9,330
Institutions, &c., ...	723	—	—	—
* Inward Transfers, ...	44	—	—	—
CITY, ...	15,439	13,655	14,186	13,969

* Inward Transfer Deaths, where information has been available, have been allocated against appropriate Wards.

TABLE VII.—GLASGOW.—NUMBER OF OUTWARD AND INWARD TRANSFER DEATHS FOR THE YEAR 1927.

CAUSE OF DEATH.	OUTWARD TRANSFERS.	INWARD TRANSFERS.
1. Enteric Fever, ...	2	...
31A Typhus Fever, ...	...	...
2. Smallpox, ...	...	...
3. Measles, ...	1	1
4. Scarlet Fever, ...	3	...
5. Whooping-cough, ...	4	1
6. Diphtheria, ...	14	...
7. Influenza, ...	6	1
8. Encephalitis Lethargica, ...	1	...
9. Meningococcal Meningitis, ...	7	...
31B Erysipelas, ...	2	...
10. Tuberculosis of Respiratory System, ...	40	57
11A Tuberculous Meningitis, ...	12	3
11B Abdominal Tuberculosis, ...	26	4
11C Other Tuberculous Diseases.	22	4
12. Cancer (Malignant Disease), ...	238	31
13. Rheumatic Fever, ...	7	1
14. Diabetes, ...	23	7
15. Cerebral Hæmorrhage, etc., ...	49	35
31C Meningitis (not Tuberculous), ...	14	3
31D Other Nervous Diseases, ...	66	71
16. Heart Disease, ...	92	92
17. Arterio-sclerosis, ...	14	21
31E Other Circulatory Diseases.	11	4
18. Bronchitis, ...	20	9
19. Pneumonia (all forms), ...	60	37
20. Other Respiratory Diseases, ...	9	7
21. Ulcer of Stomach or Duodenum, ...	63	2
22. Diarrhœa, etc. (under 2 years), ...	8	5
23. Appendicitis, ...	74	5
24. Cirrhosis of Liver, ...	4	1
25. Acute and Chronic Nephritis, ...	37	15
26. Puerperal Sepsis, ...	12	1
27. Other Diseases and Accidents of Pregnancy and Parturition, ...	13	2
28. Congenital Debility and Malformation, Premature Birth, ...	53	8
29 and 30. Suicide, and other Deaths from Violence, ...	156	70
31. Other Defined Diseases, ...	360	58
32. Causes Ill-Defined or Unknown, ...	17	13
ALL CAUSES, ...	1,540	569

BLE VIII.—GLASGOW.—DEATHS AND DEATH-RATES *per Million* FROM DIFFERENT SES, FOR THE YEAR 1927, AND CORRESPONDING RATES FOR 1926, 1925, AND 1921-1925.

CAUSE OF DEATH.	DEATHS.	ANNUAL DEATH-RATE PER MILLION.			
	1927.	1927.	1926.	1925.	1921-1925.
1. Enteric Fever, ...	10	9	15	13	11
31A Typhus Fever, ...	—	—	1	—	1
2. Smallpox, ...	—	—	—	—	1
3. Measles, ...	307	272	389	107	476
4. Scarlet Fever, ...	44	39	81	62	64
5. Whooping-cough.... ...	364	322	165	537	460
6. Diphtheria, ...	113	100	120	103	122
7. Influenza,...	204	180	350	191	306
8. Encephalitis Lethargica,	29	26	*	*	*
9. Meningococcal Meningitis,	66	58	44	38	46
31B Erysipelas, ...	29	26	45	42	50
10. Tuberculosis of Respiratory System, ...	947	838	861	922	1,005
11A Tuberculous Meningitis, ...	161	142	140	147	163
11B Abdominal Tuberculosis,	68	60	67	97	103
11C Other Tuberculous Diseases,	112	99	104	118	122
12. Cancer (Malignant Disease),	1,502	1,328	1,264	1,261	1,195
13. Rheumatic Fever, ...	76	67	46	41	46
14. Diabetes, ...	118	104	†	†	†
15. Cerebral Hæmorrhage, etc.,	1,014	897	703	644	736
31C Meningitis (not Tuberculous),	76	67	88	91	105
31D Other Nervous Diseases,...	501	443	707	716	753
16. Heart Disease, ...	1,852	1,638	1,394	1,364	1,245
17. Arterio-sclerosis, ...	366	324	698	659	575
31E Other Circulatory Diseases,	96	85			
18. Bronchitis, ...	676	598	707	804	880
19. Pneumonia (all forms), ...	1,792	1,585	1,596	1,517	1,662
20. Other Respiratory Diseases,	205	181	171	196	206
21. Ulcer of Stomach or Duodenum, ...	96	85	†	†	†
22. Diarrhœa, etc. (under 2 yrs),	340	301	†	†	†
23. Appendicitis, ...	86	76	85	87	94
24. Cirrhosis of Liver, ...	35	31	31	46	35
25. Acute and Chronic Nephritis,	379	335	370	350	368
26. Puerperal Sepsis,... ...	61	54	63	62	68
27. Other Diseases and Accidents of Pregnancy and Parturition, ...	96	85	76	106	93
28. Congenital Debility and Malformation, Premature Birth, ...	874	773	811	775	896
29 and 30. Suicide, and other Deaths from Violence, ...	711	629	586	563	519
31. Other defined Diseases, ...	1,793	1,586	2,408	2,310	2,402
32. Causes ill-defined or unknown, ...	240	212			
Total, ...	15,439	13,655	14,186	13,969	14,808

* Included with "Other Nervous Diseases." † Included with "Other Defined Diseases."

See pages 28-29 regarding new method of classification adopted as at 1st January, 1927, and effect on comparison of 1927 Rates with previous years.

TABLE IX—Glasgow, 1927.—DEATHS FROM

Disease.	Males.													Total Males.
	- 1	- 2	- 5	- 10	- 15	- 20	- 25	- 35	- 45	- 55	- 65	- 75	75 +	
1. Enteric Fever, ...	—	1	—	—	—	—	2	—	1	1	1	1	—	7
31A. Typhus Fever, ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2. Smallpox, ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3. Measles, ...	41	66	44	3	—	—	1	—	—	—	—	—	—	155
4. Scarlet Fever, ...	1	4	7	7	—	1	2	—	1	—	—	—	—	23
5. Whooping-cough, ...	84	55	21	—	—	—	—	—	—	—	—	—	—	160
6. Diphtheria,... ...	7	11	17	14	—	—	1	—	—	—	—	—	—	50
7. Influenza, ...	12	2	2	—	2	2	—	9	8	15	23	26	13	114
8. Encephalitis Lethargica, ...	—	—	—	—	—	2	1	2	2	1	2	1	—	11
9. Meningococcal Meningitis, ...	22	8	5	2	1	—	—	—	—	—	—	—	—	38
31B. Erysipelas, ...	5	—	—	—	—	—	1	—	—	1	6	3	—	16
10. Tuberculosis of Respiratory System,	1	5	3	4	9	43	65	113	105	102	55	12	2	519
11A. Tuberculous Meningitis, ...	11	16	30	15	5	6	3	3	1	4	—	—	—	94
11B. Abdominal Tuberculosis, ...	2	6	5	5	5	5	4	3	1	1	—	—		37
11C. Other Tuberculous Diseases, ...	4	5	3	5	6	3	11	3	4	5	4	2	1	56
12. Cancer (Malignant Disease), ...	—	—	1	1	2	2	3	12	30	126	222	189	57	645
13. Rheumatic Fever, ...	—	—	1	4	8	3	3	1	5	4	—	5	1	35
14. Diabetes, ...	—	—	—	1	1	1	3	2	3	9	9	10	3	42
15. Cerebral Hæmorrhage, etc., ...	1	—	—	—	—	1	—	3	10	38	128	185	87	453
31C. Meningitis (not Tuberculous), ...	12	8	—	4	2	—	1	—	2	1	—	3	—	33
31D. Other Nervous Diseases, ...	59	5	14	10	4	7	9	10	32	44	49	36	12	291
16. Heart Disease, ...	1	—	1	3	11	10	10	28	50	115	236	310	159	934
17. Arterio-sclerosis, ...	—	—	—	—	—	—	—	—	2	15	40	106	64	227
31E. Other Circulatory Diseases, ...	2	—	—	1	—	—	—	3	4	13	23	12	2	60
18. Bronchitis, ...	71	12	4	2	2	3	3	9	12	29	46	99	64	356
19. Pneumonia (all forms), ...	347	150	68	15	9	13	20	37	103	100	129	76	33	1,100
20. Other Respiratory Diseases, ...	17	4	2	4	—	—	2	3	9	14	16	29	17	117
21. Ulcer of Stomach or Duodenum, ..	—	—	—	—	—	—	2	10	20	22	16	4	1	75
22. Diarrhœa,etc. (under 2 years), ...	176	32	—	—	—	—	—	—	—	—	—	—	—	208
23. Appendicitis, ...	—	—	3	4	8	6	3	6	4	8	1	1	—	44
24. Cirrhosis of Liver,...	—	—	1	—	—	1	—	3	1	4	6	8	—	24
25. Acute and Chr. Nephritis, ...	—	1	4	1	2	4	2	10	16	31	54	43	25	193
26. Puerperal Sepsis. ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
27. Other Diseases and Accidents of Pregnancy and Parturition, ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
28. Congenital Debility and Malformation, Premature Birth,	464	2	2	1	1	—	1	—	—	—	—	—	—	471
29 and 30. Suicide, and other Deaths from Violence, ...	13	18	31	36	16	13	28	56	58	98	61	46	20	494
31. Other Defined Diseases, ...	67	23	22	19	6	16	13	21	45	93	127	184	199	835
32. Causes Ill-Defined or Unknown, ...	12	6	4	2	1	3	1	2	18	28	49	26	3	155
All Causes, ...	1,432	440	295	163	101	145	195	349	547	922	1,303	1,417	763	8,072

ERENT DISEASES IN SEXES AND AT SEVERAL AGE-PERIODS.

DISEASE.	FEMALES.													Total Females.	Total Both Sexes.
	- 1	- 2	- 5	- 10	- 15	- 20	- 25	- 35	- 45	- 55	- 65	- 75	75 +		
Enteric Fever, ...	—	-	—	—	—	—	-	1	—	2	—	—	—	3	10
Typhus Fever, ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smallpox, ...	—	—	-	—	—	—	—	—	—	—	—	—	—	—	—
Measles, ...	42	75	33	2	—	—	—	—	—	—	—	—	—	152	307
Scarlet Fever, .	2	4	8	4	1	—	—	1	—	—	1	—	—	21	44
Whooping-cough, ...	100	66	29	9	—	—	—	—	—	—	—	—	—	204	364
Diphtheria, ...	4	17	20	16	—	2	—	1	1	—	—	2	—	63	113
Influenza, ...	5	3	1	1	—	2	—	2	6	15	11	24	20	90	204
Encephalitis Lethargica, ...	—	—	1	1	—	1	1	5	5	1	3	—	–	18	29
Meningococcal Meningitis, ...	12	6	5	—	2	1	—	1	1	—	—	—	—	28	66
Erysipelas, ...	2	—	—	—	—		—	—	—	1	3	4	3	13	29
Tuberculosis of Respiratory System,	1	6	3	7	15	65	52	110	78	54	27	9	1	428	947
Tuberculous Meningitis, ...	10	14	14	9	7	2	7	3	1	—	—	—	—	67	161
Abdominal Tuberculosis	3	3	3	1	3	6	4	4	—	3	1	—	—	31	68
Other Tuberculous Diseases, ...	3	4	3	1	6	8	8	9	1	7	2	3	1	56	112
Cancer (Malignant Disease), ...	1	—	3	3	1	2	2	27	87	178	221	223	109	857	1.502
Rheumatic Fever, ...	—	—	2	4	8	4	5	3	1	5	4	3	2	41	76
Diabetes, ...	—	—	—	—	1	3	4	5	6	12	19	23	3	76	118
Cerebral Hæmorrhage, etc., ...	—	1	—	—	—	2	--	2	15	58	108	211	164	561	1,014
Meningitis (not Tuberculous), ...	16	5	9	1	2	—	2	--	4	2	1	1	--	43	76
Other Nervous Diseases, ...	28	6	11	6	3	9	2	13	24	30	28	27	23	210	501
Heart Disease, ...	2	2	1	4	10	9	12	35	67	114	185	268	209	918	1,852
Arterio-sclerosis, ...	—	—	—	—	—	—	—	-	1	8	16	45	69	139	366
Other Circulatory Diseases, ...	1	1	—	--	—	2	1	2	4	6	7	9	3	36	96
Bronchitis, ...	51	9	6	1	—	—	—	4	9	15	47	63	115	320	676
Pneumonia (all forms), ...	211	117	45	18	10	9	5	19	40	42	52	75	49	692	1,792
Other Respiratory Diseases, ...	10	3	1	1	2	1	2	1	6	9	6	16	30	88	205
Ulcer of Stomach or Duodenum,	—	—	—	-	-	—	—	1	5	3	3	6	3	21	96
Diarrhœa, etc. (under 2 years).	101	31	—	—	—	--	—	—	—	--	—	—	—	132	340
Appendicitis, ...	—	—	2	6	6	4	3	5	2	5	5	4	—	42	86
Cirrhosis of Liver. ...	—	—	—	—	—	—	—	—	2	5	3	1	—	11	35
Acute and Chr. Nephritis. ...	—	1	1	1	3	2	5	8	20	47	39	45	14	186	379
Puerperal Sepsis, ...	—	—	—	—	—	3	8	31	19	—	—	—	—	61	61
Other Diseases and Accidents of Pregnancy and Parturition.	—	—	—	—	—	4	8	50	34	—	—	--	—	96	96
Congenital Debility and Malformation, Premature Birth,	401	—	1	1	—	—	—	—	—	—	—	—	—	403	874
Suicide, and other Deaths from Violence, ...	7	19	16	13	10	6	5	16	17	34	26	21	27	217	711
Other Defined Diseases, ...	77	16	22	22	10	6	13	30	70	86	116	175	315	958	1,793
Causes Ill-Defined or Unknown, ...	5	4	1	—	1	—	—	3	4	21	33	13	—	85	240
ALL CAUSES, ...	1,095	413	241	132	101	153	149	392	530	763	967	1,271	1,160	7,367	15,439

TABLE X.—GLASGOW, 1927.—DEATHS OCCURRING IN INSTITUTIONS FOR THE TREATMENT OF THE SICK, NURSING HOMES, &c., WITHIN THE CITY.

DISEASE.	Poor Law Institutions.	General Hospitals and Infirmaries.	Local Authority Hospitals.	Nursing Homes. Asylums, &c.	TOTALS	% of all Deaths*	Outward Transfer Deaths.
1. Enteric Fever, ...	...	1	9	...	10	100	2
31A Typhus Fever, ...	...	...	...	...	...	...	...
2. Smallpox, ...	...	...	...	...	...	...	..
3. Measles, ...	5	2	180	...	187	61	1
4. Scarlet Fever, ...	...	...	43	...	43	98	3
5. Whooping-cough, ...	2	...	215	...	217	60	4
6. Diphtheria, ...	1	1	104	...	106	94	14
7. Influenza, ...	9	10	13	5	37	18	6
8. Encephalitis Lethargica,	11	1	5	1	18	62	1
9. Meningococcal Meningitis, ...	1	8	48	...	57	86	7
31B Erysipelas, ...	...	1	21	...	22	76	2
10. Tuberculosis of Respiratory System, ...	178	29	321	15	543	61	39
11A Tuberculous Meningitis, ...	18	26	67	3	114	72	12
11B Abdominal Tuberculosis, ...	8	17	10	...	35	55	25
11C Other Tuberculous Diseases,	26	12	43	...	81	75	22
12. Cancer (Malignant Disease),	272	269	9	45	595	40	222
13. Rheumatic Fever, ...	3	22	4	2	31	41	6
14. Diabetes, ...	17	34	...	3	54	49	23
15. Cerebral Hæmorrhage, etc.	268	64	2	20	354	36	45
31C Meningitis (not Tuberculous),	5	20	15	1	41	56	14
31D Other Nervous Diseases, ...	98	63	8	37	206	48	64
16. Heart Disease, ...	948	154	15	20	687	39	76
17. Arterio-sclerosis, ...	115	16	...	18	149	43	11
31E Other Circulatory Diseases,	19	23	2	5	49	53	10
18. Bronchitis.	97	26	9	11	143	21	16
19. Pneumonia (all forms), ...	241	127	576	18	962	55	57
20. Other Respiratory Diseases,	43	20	3	7	73	37	8
21. Ulcer of Stomach or Duodenum,	3	60	1	8	72	77	62
22. Diarrhœa, etc. (under 2 years),	65	60	32	2	159	47	7
23. Appendicitis, ...	1	68	1	9	79	98	74
24. Cirrhosis of Liver, ...	11	7	...	1	19	56	4
25. Acute and Chronic Nephritis,	76	82	8	7	173	48	36
26. Puerperal Sepsis, ...	1	16	39	...	56	93	12
27. Other Diseases and Accidents of Pregnancy and Parturition,	10	59	3	...	72	77	13
28. Congenital Debility and Malformation, Premature Birth,	88	165	9	13	275	32	53
29 and 30. Suicide, and other Deaths from Violence, ...	26	315	7	6	354	55	144
31. Other Defined Diseases, ...	252	422	64	67	805	46	346
32. Causes Ill-defined or Unknown,	11	9	...	4	24	11	14
YEAR, 1927, ...	2,479	2,209	1,886	328	6,902	46	1,455
YEAR, 1926, ...	2,516	2,139	1,631	251	6,537	44	1,269

* These percentages are based on the number of deaths occurring in and belonging to the City.

TABLE XI.—GLASGOW, 1927.—DEATHS IN INSTITUTIONS (INTRA MURAL) OF PERSONS BELONGING TO THE CITY BUT WITH NO HOME ADDRESS.

DISEASE.	Poor Law Institutions.	General Hospitals and Infirmaries.	Local Authority Hospitals.	Model Lodging-houses.	Homes for Old Men, Women & Orphans, &c., Asylums, Prisons & Harbour.	Total.
1. Enteric Fever, ...	...	...	3	...	...	3
31A Typhus Fever, ...	...	...	...	...	...	...
2. Smallpox, ...	...	...	...	...	...	...
3. Measles, ...	...	...	1	...	...	1
4. Scarlet Fever, ...	...	...	2	...	...	2
5. Whooping-cough, ...	1	...	7	...	...	8
6. Diphtheria, ...	...	...	3	...	...	3
7. Influenza, ...	3	3	...	1	...	7
8. Encephalitis Lethargica, ...	...	...	...	...	...	...
9. Meningococcal Meningitis, ...	...	1	1	...	...	2
31B Erysipelas, ...	...	...	4	...	...	4
10. Tuberculosis of Respiratory System, ...	38	4	13	...	3	58
11A Tuberculous Meningitis, ...	1	...	...	...	1	2
11B Abdominal Tuberculosis, ...	...	...	...	...	...	...
11C Other Tuberculous Diseases, ...	5	...	...	...	...	5
12. Cancer (Malignant Disease), ...	33	7	...	1	7	48
13. Rheumatic Fever, ...	...	...	...	...	...	...
14. Diabetes, ...	2	1	...	...	2	5
15. Cerebral Hæmorrhage, etc., ...	37	3	...	1	15	56
31C Meningitis (not Tuberculous).	1	1	...	...	...	2
31D Other Nervous Diseases, ...	9	3	...	1	5	18
16. Heart Disease, ...	95	3	...	5	21	124
17. Arterio-sclerosis, ...	18	1	...	...	12	31
31E Other Circulatory Diseases. ...	6	...	...	1	1	8
18. Bronchitis, ...	24	...	1	1	4	30
19. Pneumonia (all forms), ...	39	7	7	1	10	64
20. Other Respiratory Diseases, ...	9	...	...	...	1	10
21. Ulcer of Stomach or Duodenum.	1	1	...	...	2	4
22. Diarrhœa, etc. (under 2 years),	8	1	1	...	...	10
23. Appendicitis, ...	...	1	...	...	2	3
24. Cirrhosis of Liver,... ...	4	...	...	...	...	4
25. Acute and Chronic Nephritis,	12	1	...	...	1	14
26. Puerperal Sepsis, ...	...	...	...	...	...	...
27. Other Diseases and Accidents of Pregnancy and Parturition, ...	...	...	...	...	...	...
28. Congenital Debility and Malformation, Premature Birth,	16	4	3	...	7	30
29 and 30. } Suicide, and other Deaths from Violence, ...	4	16	...	1	8	29
31. Other Defined Diseases, ...	48	11	1	9	22	91
32. Causes Ill-Defined or Unknown	2	1	...	17	1	21
ALL CAUSES, ...	416	70	47	39	125	697

TABLE XII.—GLASGOW.—DEATHS UNDER 1 YEAR, AND DEATH-RATES PER 1,00
BIRTHS IN EACH MUNICIPAL WARD, FOR THE YEAR 1927.

MUNICIPAL WARDS.	DEATHS – 1 YEAR.	Death-rate per 1,000 Births.		
	1927.	1927.	1926.	1925.
1. Shettleston and Tollcross,	96	126	108	113
2. Parkhead,	93	97	103	103
3. Dalmarnock,	149	130	118	119
4. Calton,	114	113	112	128
5. Mile-end,	108	140	163	137
6. Whitevale,	76	128	92	110
7. Dennistoun,	15	47	74	62
8. Provan,	97	101	143	94
9. Cowlairs,	48	113	71	92
10. Springburn,	46	101	74	86
11. Townhead,	64	109	99	110
12. Exchange,	63	135	120	111
13. Blythswood.	44	144	135	78
14. Anderston,	83	118	95	136
15. Sandyford,	52	116	89	116
16. Park,	19	74	68	73
17. Cowcaddens,	134	121	104	109
18. Woodside,	95	114	100	111
19. Ruchill,	89	121	79	85
20. North Kelvin,	27	69	68	69
21. Maryhill,	52	96	88	90
22. Kelvinside,	12	58	49	36
23. Partick East,	55	92	90	112
24. ,, West,	45	89	99	91
25. Whiteinch,	39	56	63	94
26. Hutchesontown,	137	133	98	96
27. Gorbals,	157	112	128	102
28. Kingston,	110	124	118	107
29. Kinning Park,	102	108	84	84
30. Govan,	90	101	106	92
31. Fairfield,	55	82	86	71
32. Pollokshields,	4	12	71	41
33. Camphill,	16	75	82	44
34. Pollokshaws,	17	48	89	68
35. Govanhill,	42	78	59	70
36. Langside,	13	63	44	27
37. Cathcart,	10	48	52	31
Institutions, &c.,	58	...	...	...
Inward Transfers,*	1	...	...	...
CITY,	2,527	107	104	102

* Inward Transfer deaths, where information has been available, have been allocated against appropriate wards.

Cause of Death.	Age in Weeks.				Total –4 weeks.	Age in Months.											Total –1 year.
	–1	–2	–3	–4		–2	–3	–4	–5	–6	–7	–8	–9	–10	–11	–12	
I. Congenital Malformations, ...	25	2	5	2	34	6	7	4	2	...	1	...	...	...	...	...	54
II. Diseases of Early Infancy, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	419
(*a*) Congenital Debility, Sclerema, and Icterus, ...	67	7	11	5	90	25	7	9	8	8	4	...	...	...	...	2	153
(*b*) Premature Birth, ...	181	19	17	10	227	5	2	3	...	1	...	1	...	...	...	...	239
(*c*) Injury at Birth,...	16	1	1	...	18	...	...	...	...	...	...	...	...	...	...	...	18
(*d*) Atelectasis, ...	5	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	5
(*e*) Others, ...	2	1	...	...	3	1	...	...	...	...	...	...	...	...	...	...	4
III. Diseases of Respiratory System,	6	14	12	9	41	38	47	40	39	36	38	35	29	33	24	35	435
IV. Diseases of Digestive System, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	201
(*a*) Diarrhœal, ...	...	2	4	7	13	14	29	25	21	20	15	10	10	6	5	8	176
(*b*) Others, ...	...	...	1	1	2	3	2	2	7	5	...	1	3	...	...	...	25
V. Diseases of Nervous System, ...	12	7	5	...	24	3	3	12	6	3	3	5	3	5	3	2	72
VI. Tuberculous Diseases, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18
(*a*) Tuberculous Meningitis, ...	...	...	...	...	...	1	2	1	...	...	...	...	2	1	2	2	11
(*b*) Abdominal Tuberculosis, ...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	2
(*c*) Other Forms, ...	...	...	...	...	...	...	...	...	2	...	1	...	...	1	1	...	5
VII. Infectious Diseases, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	165
(*a*) Measles, ...	...	...	...	...	...	...	...	...	1	2	5	6	6	10	6	5	41
(*b*) Scarlet Fever, ...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1
(*c*) Whooping-cough, ...	...	...	...	...	...	4	7	4	10	2	9	7	8	15	4	14	84
(*d*) Diphtheria, ...	...	...	...	...	...	...	...	1	...	...	...	...	1	3	2	...	7
(*e*) Erysipelas, ...	...	...	...	...	...	1	2	1	1	...	...	...	...	...	...	...	5
(*f*) Meningococcal Meningitis, ...	...	...	...	...	...	...	...	1	1	4	2	3	2	5	4	...	22
(*g*) Varicella, ...	...	...	...	...	...	...	...	...	2	1	...	...	...	...	1	1	5
VIII. Syphilis, ...	...	...	...	...	...	...	1	2	...	...	...	...	...	...	...	...	3
IX. Overlaying, ...	1	...	...	...	1	3	2	1	...	1	...	...	...	...	...	...	8
X. Other Violence, ...	2	...	...	1	3	...	...	...	...	...	...	...	...	...	...	2	5
XI. All Other Causes, ...	6	1	2	2	11	10	6	5	3	2	1	4	4	3	1	2	52
	323	54	58	37	472	114	118	111	104	85	79	73	68	82	53	73	1,432

Inward Transfer Deaths have been allocated this year against diseases.

TABLE XIV.—Glasgow, 1927.—FEMALE Infant Deaths at Given Ages and from Several Causes.

Cause of Death.	Age in Weeks.				Total – 4 weeks.	Age in Months.											Total – 1 year.
	– 1	– 2	– 3	– 4		– 2	– 3	– 4	– 5	– 6	– 7	– 8	– 9	– 10	– 11	– 12	
I. Congenital Malformations, ...	19	7	4	3	33	10	6	5	1	2	2	...	...	...	...	...	59
II. Diseases of Early Infancy. ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	362
(*a*) Congenital Debility, Sclerema, and Icterus, ...	48	12	6	3	69	11	14	7	7	4	2	1	2	...	1	...	118
(*b*) Premature Birth, ...	148	17	18	4	187	13	3	3	...	...	...	...	...	..	...	...	206
(*c*) Injury at Birth, ...	13	2	2	...	17	...	...	...	...	...	1	...	...	...	...	...	18
(*d*) Atelectasis, ...	12	2	...	...	14	...	...	...	...	...	...	...	...	...	...	...	14
(*e*) Others, ...	3	1	...	2	6	...	...	...	...	...	...	...	...	...	...	...	6
III. Diseases of Respiratory System,	1	5	8	8	22	34	22	27	23	20	25	23	17	24	20	15	272
IV. Diseases of Digestive System, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	116
(*a*) Diarrhœal, ...	1	2	2	1	6	6	17	12	13	10	9	9	11	4	2	2	101
(*b*) Others, ...	...	1	...	...	1	1	5	1	1	2	1	1	...	...	1	1	15
V. Diseases of Nervous System, ..	4	2	...	1	7	5	3	5	1	5	3	2	3	6	2	2	44
VI. Tuberculous Diseases.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17
(*a*) Tuberculous Meningitis, ...	...	...	...	...	...	...	..	...	1	1	...	...	4	1	2	1	10
(*b*) Abdominal Tuberculosis, ...	...	...	...	...	...	1	...	...	1	...	1	...	...	...	...	...	3
(*c*) Other Forms, ...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	1	4
VII. Infectious Diseases.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	167
(*a*) Measles, ...	...	1	...	...	1	...	...	...	...	2	4	4	7	6	7	11	42
(*b*) Scarlet Fever, ...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	2
(*c*) Whooping-cough, ...	...	...	...	1	1	5	7	9	5	3	9	8	8	14	20	11	100
(*d*) Diphtheria, ...	...	...	...	...	...	...	...	...	...	...	2	1	1	...	...	...	4
(*e*) Erysipelas, ...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	..	...	2
(*f*) Meningococcal Meningitis, ...	...	...	...	...	...	...	...	1	1	1	1	3	4	1	...	...	12
(*g*) Varicella, ...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	2	1	5
VIII. Syphilis, ...	1	...	...	...	1	1	2	3	...	...	...	...	...	...	...	...	7
IX. Overlaying.	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1
X. Other Violence, ...	...	...	...	1	1	...	1	...	...	...	...	...	1	1	...	2	6
XI. All Other Causes, ...	3	...	1	1	5	4	4	4	2	4	5	5	2	2	3	4	44
	253	52	41	25	371	92	84	78	56	54	66	58	63	60	62	51	1,095

TABLE XV.—Glasgow, 1925-1927.—Abstract of Notifications under Notification of Births Act, 1907, and Results of Visits.

	1925	1926*	1927
Total Number of Notifications, ...	26,654	25,785	24,882
Doctor at Home, ...	7,414	7,255	7,140
Doctor in Institution, ...	3,263	3,799	3,636
Maternity Hospital (Outdoor) Nurse, ...	3,840	3,600	3,486
Other Institutional Nurse, ...	149	—	—
Certified Midwife, ...	11,949	11,105	10,601
Others, ...	39	26	19
Total Cards issued, ...	19,240	18,530	17,742
Total Cards returned, ...	18,927	18.956	17,683
Full Information, ...	17,844	17,938	16,757
Doctor found in attendance, ...	43	41	32
Wrong Address—Not Traced, ...	—	—	—
Others, ...	1,040	977	894

TABLE XVI.—Glasgow, 1925-1927.—BIRTHS Notified showing Medically and not Medically Attended.

	1925	1926*	1927
otifications Received—*less Duplicates*—			
Total, ...	26,654	25.785	24,882
Live-births, ...	25,592	24,825	23,866
Still-births.	1.062	960	1,016
Per cent. Still-births to Total, ...	4·0	3·7	4·1
edically attended—			
Total Births at Home, ...	7,414	7,255	7,140
In Institutions, ...	3,263	3,799	3,636
Total, ...	10,677	11,054	10,776
Per cent., ...	40·1	42·9	43·3
Still-births at Home, ...	252	256	265
Still-births in Institutions, ...	349	322	380
ot Medically attended—			
Maternity Hospital, Outdoor Nurse, ...	3,840	3,600	3,486
Other Institutional Nurses, ...	149	—	—
Certified Midwives, ...	11,949	11,105	10,601
Others, ...	39	26	19
Total, ...	15,977	14,731	14,106
Per cent., ...	59·9	57·1	56·7
Still-births.	461	382	371

* Figures for 1926 include Added Area.

TABLE XVII.—GLASGOW, 1925-1927.—CASES OF INFECTIOUS DISEASE REGISTERED AND NUMBERS TREATED IN HOSPITAL.

	1925		1926		1927		
	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Total.
A.—Notifiable—							
Fevers—Typhus, ...	...	...	8	...	...	...	...
Enteric, ...	42	2	96	4	130	18	148
Continued and Undefined,	8	1	3	2	5	...	5
Puerperal, ...	284	16	302	7	254	23	277
Smallpox, ...	...	...	...	...	...	...	...
Scarlet Fever, ...	3,650	162	4.554	189	3,803	314	4,117
Diphtheria and Membranous Croup, ...	1,678	58	2,255	68	2,908	128	3,036
Erysipelas, ...	486	516	522	503	426	422	848
Cholera, ...	...	...	...	...	...	...	...
Cerebro-Spinal Fever, ...	54	8	60	6	75	4	79
Ophthalmia Neonatorum, ...	54	561	63	600	42	610	652
Trachoma, ...	10	31	11	32	7	42	49
Acute Encephalitis Lethargica,	47	26	22	23	12	11	23
Acute Polio-Encephalitis, ...	1	1	2	1	...	...	...
Acute Poliomyelitis, ...	5	3	2	8	5	8	13
Acute Primary Pneumonia, ...	3,446	2,356	3,428	2,743	3,451	2,426	5,877
Acute Influenzal-Pneumonia, ...	177	126	260	273	197	178	375
Malaria, ...	2	17	7	15	6	13	19
Dysentery, ...	10	2	7	5	17	12	29
Trench Fever, ...	...	...	...	...	...	...	...
Infective Jaundice, ...	...	...	1	...	...	...	...
Pulmonary Tuberculosis, ...	742	858	840	955	860	763	1,623
Other Forms of Tuberculosis, ...	315	800	317	714	388	713	1,101
B.—Not Notifiable—							
Measles, ...	633	5,874	1,064	15,057	799	8,184	8,983
German Measles, ...	50	200	67	401	47	126	173
Whooping-cough, ...	878	11.316	273	3.565	580	9,413	9,993
Chickenpox, ...	199	6,958	155	5,631	176	7,688	7,864
Others, ...	2[a]	...	4[b]	...	5[c]	...	5
Totals, ...	12,773	29,892	14,323	30,802	14,193	31,096	45,289

(a) Anthrax, 1; Beri-beri, 1; (b) Anthrax, 1; Enteritis, 2; Mumps, 1.
(c) Mumps, 3; Enteritis, 1; Vincent's Angina, 1.

TABLE XVIII.—GLASGOW, 1923-1927.—CASE-RATES *per Million* FOR INFECTIOUS DISEASES.

	CASE-RATES PER MILLION.				
	1923	1924	1925	1926*	1927
A.—Notifiable—					
Fevers—Typhus,	2	...	...	7	...
Enteric,	116	75	40	91	131
Continued and Undefined,	20	17	8	4	4
Puerperal,	255	216	273	279	245
Smallpox,	...	2	...	...	...
Scarlet Fever,	3,277	2,905	3,472	4,252	3,641
Diphtheria and Membranous Croup,	1,623	1,733	1,581	2,082	2,685
Erysipelas,	940	783	913	922	750
Cholera,	...	...	...	...	...
Cerebro-Spinal Fever,	59	60	56	60	70
Ophthalmia Neonatorum,	570	540	560	601	577
Trachoma,	38	41	37	39	43
Acute Encephalitis Lethargica,	101	357	66	39	20
Acute Polio-Encephalitis,	1	3	2	3	...
Acute Poliomyelitis,	4	8	7	9	11
Acute Primary Pneumonia,	3,991	6,155	5,285	5,589	5,198
Acute Influenzal-Pneumonia,	109	480	276	483	332
Malaria,	23	23	17	20	17
Dysentery,	6	13	11	11	26
Trench Fever,	...	...	...	...	...
Infective Jaundice,	...	...	...	1	...
Pulmonary Tuberculosis,	1,584	1,669	1,457	1,572	1,435
Other Forms of Tuberculosis,	1,133	1,114	1,016	907	974
B.—Not Notifiable—					
Measles,	9,462	7,588	5,927	14,630	7,945
German Measles,	244	463	228	423	153
Whooping-cough,	4,538	9,168	11,109	3,466	8,839
Chickenpox,	5,416	4,632	6,519	5,191	6,955
Others,	10	5	2	4	4
Totals,	33,522	38,050	38,862	40,684	40,055

* Added Area not included.

TABLE XIX.

Cases of Infectious Disease Registered in each Month—Showing Numb

	INFECTIOUS DISEASE (NOTIFICATION) ACT, 1889																							
	Fevers								5		6		7		8		9		10		11	12	
	1 Typhus		2 Enteric, including Paratyphoid		3 Continued and Undefined		4 Puerperal		Scarlet Fever		Diphtheria and Membranous Croup		Erysipelas		Cerebro-Spinal Fever		Ophthalmia Neonatorum		Trachoma		Acute Encephalitis Lethargica	Acute Polio-Encephalitis	Acute Polio-
	Hosp.	Home	Hosp.	Home	Hosp.	Home	Hosp.	Home	Hosp.	Home	Hosp	Home	Hosp	Home	Hosp.	Home	Hosp.	Home	Hosp.	Home	Hosp.	Home	
Jan.	...	...	11	...	...	...	18	...	383	47	264	10	47	47	2	...	3	43	...	3	3	2	
Feb.	...	...	7	...	1	...	13	1	321	37	281	5	29	36	7	1	6	58	...	5	...	2	
Mar.	...	...	10	...	...	...	23	...	341	28	251	15	34	35	13	2	7	65	...	5	2	2	
April	...	...	6	1	...	...	26	...	325	16	180	6	37	27	7	1	4	39	1	4	2	1	
May	...	...	3	1	...	...	23	...	339	27	147	2	39	35	8	...	3	52	1	2	1	...	
June	...	...	5	...	...	...	19	...	272	30	118	6	41	30	6	..	1	39	1	8	2	1	
July	...	...	5	...	...	...	17	1	147	14	132	8	15	23	4	...	3	47	...	2	...	...	
Aug.	...	...	42	12	1	...	19	3	235	14	167	7	23	22	7	...	3	57	...	2	1	4	
Sept.	...	...	18	4	1	...	24	7	340	9	255	8	27	36	4	...	4	69	1	2	...	...	
Oct.	...	...	18	...	1	...	25	4	418	26	353	11	33	42	5	...	3	45	2	...	1	3	
Nov.	...	...	3	...	1	...	23	4	409	41	373	26	54	44	5	...	3	46	1	3	3	3	
Dec.	...	...	2	...	...	...	24	3	273	25	387	24	47	45	7	...	2	50	...	6	2	1	
	...	...	130	18	5	...	254	23	3803	314	2908	128	426	422	75	4	42	610	7	42	17	19	

SGOW.

TED IN HOSPITALS AND UNDER SUPERVISION AT HOME DURING 1927

FECTIOUS DISEASES REGULATIONS, 1919							TUBERCULOSIS REGULATIONS, 1914				OTHER INFECTIOUS DISEASES									
	15		16		17		18		19		20		21		22		23			
Pneumonia	Acute Influenzal-Pneumonia		Malaria		Dysentery		Pulmonary Tuberculosis		Other Forms of Tuberculosis		Measles		German Measles		Whooping-cough		Chicken-pox		TOTALS	
Home	Hosp.	Home	Hosp.	Home	Hosp	Home	Hosp.	Home	Hosp.	Home	Hosp.	Home	Hosp.	Home	Hosp.	Home	Hosp.	Home	Hosp.	Home
223	18	12	...	...	...	...	76	54	30	48	12	115	3	14	50	689	20	878	1282	2185
146	15	20	...	...	1	...	80	79	25	55	7	104	3	10	57	936	15	758	1116	2253
216	44	34	...	...	...	1	81	74	46	66	5	98	3	15	80	1284	15	932	1289	2872
187	37	31	...	2	1	...	71	66	40	72	3	74	6	16	55	1242	14	871	1146	2656
125	23	16	...	1	2	...	83	79	36	58	22	169	9	20	65	1358	15	871	1082	2816
155	8	11	2	2	4	3	88	61	52	85	24	295	10	14	54	1128	10	780	992	2648
92	8	7	1	2	...	...	60	38	30	46	58	79	7	1	48	397	23	207	717	964
62	4	2	1	1	2	3	64	59	21	44	43	139	1	3	60	913	16	207	894	1554
109	2	1	2	1	1	...	58	51	39	51	32	264	1	8	30	395	8	358	1044	1373
236	18	11	...	1	1	2	62	52	29	63	102	1065	2	9	26	249	11	505	1460	2324
498	11	23	...	3	1	3	66	72	21	59	225	2750	2	7	19	392	16	704	1660	4678
377	9	10	...	...	4	...	71	78	19	66	266	3032	...	9	36	430	13	617	1506	4773
2426	197	178	6	13	17	12	860	763	388	713	799	8184	47	126	580	9413	176	7688	14188	31096
Add others—Mumps, 3; Enteritis, 1; Vincent's Angina, 1, ...																			5	...
																			14193	31096

TABLE XX.—HOSPITAL BED ACCOMMODATION FOR INFECTIOUS DISEASES IN GLASGOW SINCE 1865 (EXCLUDING TUBERCULOSIS).

YEAR.	PARISH.			Glasgow Royal Infirmary.	LOCAL AUTHORITY.						Total Beds.	Population in Thousands.	Beds per Thousand.
	City.	Barony.	Govan.		Parliamentary Road.	Belvidere Fever.	Belvidere Smallpox.	Ruchill.	Shieldhall.	Knightswood.			
1865	100	120	54	200	136	...	...	...	...	...	610	428	1·4
1866	100	120	54	175	136	...	...	...	...	...	585	438	1·3
1867	...	120	54	100	136	...	...	...	...	...	410	446	0·9
1869	...	120	54	135	136	...	...	...	...	...	445	464	1·0
1870	...	120	54	100	250	250	...	...	...	...	774	471	1·7
1872	...	120	...	100	250	250	...	...	...	...	720	495	1·4
1875	...	...	...	100	250	250	...	...	...	...	600	500	1·2
1876	...	...	...	...	250	250	...	...	...	...	500	502	1·0
1878	...	...	...	...	120	250	150	...	...	...	520	507	1·0
1880	...	...	...	...	120	250	150	...	...	...	520	510	1·0
1881	...	...	...	...	120	370	150	...	...	...	640	512	1·2
1882	...	...	...	...	120	220	150	...	...	...	490	518	1·0
1887	...	...	...	...	120	390	150	...	...	...	660	545	1·2
1893	...	...	...	...	200	390	150	...	...	...	740	678	1·1
1900	...	...	...	...	200	390	150	440	...	...	1180	744	1·6
1901	...	...	...	...	200	390	220	440	...	...	1250	764	1·6
1906	...	...	...	...	...	390	220	440	...	...	1050	836	1·3
1910	...	...	...	...	...	390	220	542	...	...	1152	884	1·3
1913	...	...	...	...	...	390	220	542	100	81	1333	1032	1·3
1915	...	...	...	...	...	390	220	542	100	10	1262	1035	1·2
1923	...	...	...	...	...	610	...	542	100	114	1366	1089	1·3
1925	...	...	...	...	...	610	...	542	100[2]	134	1386	1096	1·3
1926	...	...	...	...	...	610	...	542[1]	120	134[3]	1406	1098	1·3

[1] Also 272 beds for Tuberculosis.

[2] ,, 24 ,, ,,

[3] ,, 88 ,, ,,

The City has also a part interest in Lightburn Hospital—about 7-8 beds.
,, ,, ,, Darnley ,, ,, 20 ,,
,, ,, ,, Blawarthill ,, .

TABLE XX.—(*Continued*).

INSTITUTION ACCOMMODATION FOR FEVER AND TUBERCULOSIS PATIENTS :—

	Fever.	Tuberculosis.	Total.
Belvidere Hospital, ...	610	—	610
Ruchill Hospital, ...	542	272	814
Shieldhall Hospital, ...	120	—	120
Knightswood Hospital, ...	134	88	222
Bellefield Sanatorium, ...	—	45	45
Robroyston Sanatorium, ...	—	548	548
TOTAL BEDS IN CORPORATION INSTITUTIONS, ...	1,406	953	2,359
Ochil Hills Sanatorium, ...	—	50	50
Bridge of Weir Sanatorium, ...	—	70	70
Dunblane Sanatorium, ...	—	12	12
Seaforth Sanatorium, ...	—	14	14
Hairmyres Sanatorium, ...	—	7	7
Lanfine Home, ...	—	25	25
Strathblane Hospital, ...	—	10	10
Poor Law Institutions, ...	—	218	218
BEDS IN OTHER INSTITUTIONS,	—	406	406*
TOTAL, ...	1,406	1,359	2,765

* Average daily number occupied during 1926.

TABLE

SHOWING NUMBER, AVERAGE RESIDENCE, AND

ORDINARY NETT EXPENDITURE (as per Treasurer's Statement), excluding Interest and Sinking Fund Charges, and Cost of treating Patients from Rutherglen :—

Infectious Diseases Hospital, Belvidere, ...	£70,978 15 6			
Infectious Diseases Hospital, Ruchill, ...	100,905 5 2			
Infectious Diseases Hospital, Shieldhall, ...	14,723 3 1			
Infectious Diseases Hospital, Knightswood,	25,460 3 10			
Sanatorium and Auxiliary Hospital, Robroyston, ...	57,146 15 10	£269,214 3 5		

Average Daily Number of Patients in Infectious Diseases Hospital, Belvidere, ...	627
Average Daily Number of Patients in Infectious Diseases Hospital, Ruchill, ...	809
Average Daily Number of Patients in Infectious Diseases Hospital, Shieldhall, ...	112
Average Daily Number of Patients in Infectious Diseases Hospital, Knightswood,	220
Average Daily Number of Patients in Robroyston Sanatorium and Auxiliary Hospital, ...	539
Average Daily Number of Patients in Hospitals, ...	2,307

	BELVIDERE HOSPITAL.	RUCHILL HOSPITAL.	SHIELDHALL HOSPITAL.	KNIGHTSWOOD HOSPITAL.	ROBROYSTON HOSPITAL.	TOTAL.
Patients remaining at 31st May, 1926, ...	521	706	94	182	542	2,045
Patients admitted during 1926-1927, ...	5,863	5,786	1,087	1,616	605	14,957
Total under Treatment, 1926-1927, ...	6,384	6,492	1,181	1,798	1,147	17,002
Patients dismissed during 1926-1927, ...	5,849	5,699	1,080	1,565	620	14,813
Patients remaining at 31st May, 1927, ...	535	793	101	233	527	2,189

Average Residence of Patients dismissed, 1926-1927, ... 55·03 days.

NOTE.—Owing to the earlier publication of this Report,

XXI.

COST OF TREATMENT OF PATIENTS, 1926-1927.

Average Daily Expenditure, ...	£737 11 6
Average Daily Cost per Patient, ...	0 6 4
Average Cost of Treatment per Patient, ...	17 9 11
Average Cost of Bed per Year, ...	116 1 1

STATEMENT SHOWING PATIENTS CLASSIFIED AS TO DISEASE, AVERAGE RESIDENCE OF PATIENTS DISMISSED, AND AVERAGE COST AT THE DAILY RATE GIVEN ABOVE.

Disease.	Number Dismissed.	Average Residence.	Average Cost.
Typhus, ...	8	46·62 days	£14 16 6
Smallpox, ...	3	22·67 ,,	7 4 2
Enteric, ...	102	53·09 ,,	16 17 7
Anthrax, ...	—	—	—
Puerperal, ...	259	33·22 ,,	10 11 3
Scarlet, ...	4,633	47·08 ,,	14 19 5
Diphtheria, ...	2,377	45·15 ,,	14 7 1
Encephalitis Lethargica, ...	26	44·62 ,,	14 3 9
Poliomyelitis, ...	1	77·00 ,,	24 9 9
Trachoma, ...	37	45·97 ,,	14 12 4
Acute Primary Pneumonia and Influenzal-Pneumonia, ...	3,193	29·67 ,,	9 8 8
Tropical Diseases, ...	9	16·33 ,,	5 3 10
Measles and German Measles, ...	249	42·10 ,,	13 7 9
Whooping-Cough, ...	559	45·97 ,,	14 12 4
Phthisis, ...	1,040	126·71 ,,	40 5 9
Surgical Tuberculosis, ...	421	380·80 ,,	121 1 7
Other Infectious Diseases, ...	734	28·40 ,,	9 0 7
All other Diseases, ...	1,162	24·34 ,,	7 14 9
	14,813		

* Includes Erysipelas, Cerebro-spinal Fever, Chickenpox, and Influenza.

† Includes persons sent in by mistaken diagnosis.

Accounts for year 1927-1928 are not available.

TABLE XXII.—GLASGOW.—STATUTORY DECLARATIONS OF CONSCIENTIOUS OBJECTION TO VACCINATION IN EACH WARD DURING 1927.

MUNICIPAL WARDS.	Conscientious Objections Lodged.	Percentage of Births Registered.		
		1927.	1926.	1925.
1. Shettleston and Tollcross, ...	165	22	20	20
2. Parkhead, ...	205	21	19	17
3. Dalmarnock, ...	232	20	19	17
4. Calton, ...	213	21	17	18
5. Mile-end, ...	169	22	17	19
6. Whitevale, ...	138	23	19	18
7. Dennistoun, ...	47	15	17	19
8. Provan, ...	177	18	21	18
9. Cowlairs, ...	134	32	34	30
10. Springburn, ...	134	29	40	30
11. Townhead, ...	139	24	23	22
12. Exchange, ...	91	19	19	21
13. Blythswood, ...	45	15	18	17
14. Anderston, ...	102	14	17	17
15. Sandyford, ...	71	16	17	14
16. Park, ...	41	16	16	15
17. Cowcaddens, ...	198	18	16	14
18. Woodside, ...	136	16	13	14
19. Ruchill, ...	179	24	25	23
20. North Kelvin, ...	68	17	23	21
21. Maryhill, ...	105	19	15	15
22. Kelvinside, ...	21	10	7	9
23. Partick (East), ...	102	17	18	20
24. ,, (West), ...	93	18	27	17
25. Whiteinch, ...	180	26	25	29
26. Hutchesontown, ...	272	26	29	27
27. Gorbals, ...	280	20	19	17
28. Kingston, ...	242	27	25	24
29. Kinning Park, ...	235	25	26	28
30. Govan, ...	364	41	39	31
31. Fairfield, ...	272	40	49	41
32. Pollokshields, ...	51	15	16	15
33. Camphill, ...	28	13	17	18
34. Pollokshaws, ...	130	37	42	40
35. Govanhill, ...	118	22	28	21
36. Langside, ...	25	12	18	17
37. Cathcart, ...	38	18	20	29
Institutions, &c., ...	4	—	—	—
	5,254	22	23	21

TABLE XXIII.—General Sanitary Operations.—(*a*) Food and Drugs, &c.

Year.	1927.	1926.	1925.
I. Dairies.			
Registered during year,	201	174	174
Removed from Register,	169	101	203
On Register at 31st Dec.,	1,628	1,596	1,523
Number of Inspections,	22,901	22,058	21,700
Contraventions of Orders or Regulations,	19	28	38
Prosecutions for same,	13	3	1
Repairs or Improvements effected,	13	19	43
II. Dealers in Ice Cream.			
Registered during the year	83	59	64
Removed from Register,	85	151	95
On Register at 31st Dec.,	598	600	692
Number of Inspections,	9,453	9,132	8,850
Contraventions of Orders or Regulations,	12	32	33
Prosecutions for same,	2	3	5
Repairs or Improvements effected,	6	10	18
III. Byres for Milch Cows.			
Number of Dairy Byres as at 31st Dec.,	54	65	45
,, Cows licensed for,	1,197	1,400	858
Average number kept,	951	1,056	576
Number of Inspections,	605	580	548
Contraventions of Rules or Regulations,	*	*	14
Prosecutions for same,	*	*	...
Repairs or Improvements effected,	*	*	...
IV. Unwholesome Food.			
Number of Inspections,	13,329	12,283	11,769
,, Lots dealt with,	38	35	26
Nature of Food destroyed at Inspector's instance with Owner's consent—			
Eggs,	74	216	500
Canned Food (various), (lbs.)	2,059	3,400	725
Biscuits, ,,	...	...	10
Fruit (Dried and Soft), ,,	7,335	89,706	42,838
Pork (Fresh and Cured), ,,	49	14	101
Vegetables, ,,	37,542	170,706	3,486
Meat Paste, ,,	...	...	30
Sausages, ,,	30	...	...
Butter, ,,	...	...	56
Sausage Casings, ,,	...	...	336
Fish (Cured), ,,	...	6	...
Lard, ,,	62	...	...
Prosecutions,	...	...	...

* Included under Dairies Section.

TABLE XXIII. (*Continued*).

Year.	1927.	1926.	1925.
V. Food and Drugs and Margarine Acts.			
Informal Samples analysed, ...	4,132	3,586	3,620
Statutory Samples analysed, ...	1,411	1,445	1,376
Statutory Samples found Non-genuine, ...	58	56	94
Proceedings instituted, ...	36	31	47
Number of Convictions, ...	33	28	36
Amount of Fines imposed, ...	£146 3/	£157 10/	£199
Number dismissed or found "not proven,"	2	1	3
Number deserted simpliciter, ...	1	2	5
Number withdrawn and expenses paid, ...	...	...	3
Amount of expenses paid,...	...	...	£6 6
Prosecutions for Margarine Offences, ...	2	2	8
Fines and Expenses imposed, ...	£5	£5	£22
Non-convictions, ...	...	...	...
Obstruction, ...	...	...	...
Fines imposed, ...	...	...	...
Vending Milk without name and address being on vessel,	...	1	1
Number of Convictions, ...	...	1	1
Amount of Fines, ...	...	10/6	£1
Refusal to Sell, ...	...	...	...
Number of Convictions, ...	...	...	...
Amount of Fines, ...	...	...	...
VI. The Sale of Horse-Flesh Regulation Act, 1889.			
Number of premises in which Horse-flesh is sold, ...	...	...	...
Prosecutions for contravention of Act, ...	...	...	...
Fines imposed, ...	...	...	...
VII. Fish and Game Inspection.			
Under the Glasgow Police Amendment Act, 1890.			
Number of Packages of Fish, Game, Poultry, and Rabbits passed through Fish Market, ...	1,729,159	1,712,119	1,773,220
Number of Inspections of Fish Shops, Restaurants, and Hawkers' Barrows and Carts, ...	1,429	1,532	1,449
Number of Nuisances discovered therein, ...	...	...	...
Fish and Game destroyed with consent—			
Fresh Fish, ... (lbs.)	112,592	183,717	62,674
Cured Fish, ... ,,	10.362	25,847	18,172
Shell Fish, ... ,,	624	772	1,964
Crabs and Lobsters, ... ,,	133	251	112
Venison, ... ,,	190	560	168
Rabbits, ... ,,	7,578	4,320	4.233
Poultry and Game, ... ,,	1,176	853	1,063
Eggs, ...	444	360	60

TABLE XXIII—(*Continued.*)

(*b*) AIR PURIFICATION.

Year.	1927.	1926.	1925.
Smoke Prevention.			
Glasgow Police (Further Powers) Act, 1892, Sec. 31.			
Number of Inspections of Boiler and other Furnaces, ...	1,483	1,303	1,721
" Observations of Chimneys, ...	27,714	27,752	29,221
" Intimations of Excess Smoke given, ...	366	281	455
" Warning Notices to those contravening the Act, ...	38	23	41
" Prosecutions in Police Courts, ...	42	8	41
" Convictions, ...	41	8	37
Amount of Fines imposed, ...	£62 14/	£15	£52 8/6
Number of Prosecutions withheld on receiving a promise from Offenders to improve the Furnace Plant, ...	7	4	4
" Prosecutions withheld on account of accidents to Furnace Plant, or, regular Fireman temporarily off duty, ...	1	2	...
" New Steam Boilers installed to give increased power, ...	8	3	3
" Mechanical Stokers fitted to Steam Boiler Furnaces, ...	6	18	23
" Steam Boiler Furnaces fitted with Smoke-preventing Appliances, ...	3	...	5
" Furnaces in which Anthracite, Coke, or other non-bituminous Fuel has been substituted for ordinary Coal, ...	17	18	18
" Furnaces adapted for Smokeless Combustion of Oil Fuel, ...	3	2	2
" Steam Boilers replaced by Electric Motors (using Corporation power), ...	5	3	3
" Furnaces formerly Coal-fired, reconstructed for use of Corporation gas, ...	18	6	9
" New Chimneys erected or existing Chimneys heightened to give increased draught and carry gases higher, ...	7	1	1
" Improvements to Furnaces not coming under any of the above headings, ...	7	...	6
Spraying Dungsteads, Ashpits and Privies.			
Total number of Dungsteads Sprayed from 2nd May, till 1st October, ...	19,444	19,811	19,467
Total Outlay for Wages, Plant, and Material, ...	£512	£513	£489
Interments.			
For year ending 31st May.	1928.*	1927.	1926.
Total number of Applications granted for Interment of Unclaimed and other Bodies, ...		360	447
Total Expenditure, ...		£793 0/6	£1,027 4/4
Payment of Costs recovered, ...		248 6/1	£326 6/2

* Not available.

TABLE XXIII.—(*c*) Summary of Operations of Sanitary

District.	EASTERN.						
Ward.	1	2	3	4	5	6	7
I. Nuisances.							
Total Inspections made for discovery of Nuisances, ...	39450	32545	36789	51031	29684	19595	16072
Nuisances removed or remedied, ...	1590	1831	2502	3657	1975	931	684
Consisting of—							
Apartments, Lobbies, or W.C.'s, with insufficient light or ventilation, or otherwise defective in construction, ...	...	...	...	3	1	...	...
Defective Chimneys causing nuisance, ...	14	13	33	48	34	18	10
Disrepair or dampness in Dwelling-houses,	116	116	257	640	167	90	63
Offensive smells from Drains, or other reasonable grounds—smoke test, ...	38	40	54	31	27	48	17
Drains, Conductors, Soil-pipes, or Rhones choked or defective, ...	750	677	999	1130	752	506	295
Sanitary Fittings choked or defective, ..	149	138	248	410	228	57	20
Dirty Houses and Bedding, ...	46	208	88	161	156	57	8
Dirty Closes, Stairs, etc. (daily and bi-weekly cleansing), ...	71	270	165	178	132	...	31
Houses overcrowded, ...	...	1	...	...	...	...	...
Walls of Closes, Staircases, Lobbies, W.C.'s, and external walls of houses filthy (limewashing), ...	185	202	218	357	229	99	143
Animals or Poultry kept so as to be a nuisance, ...	..	..	1	...	..	...	..
Accumulations of Garbage or Rubbish, ...	15	19	81	214	24	14	3
Smells from Decaying Animal Matter or other cause, ...	4	...	5	7	1	1	12
Stagnant Water, ...	5	7	64	47	11	4	4
Premises infested with Rats or other vermin, ...	1	...	4	31	4	2	...
Sink accommodation and Water Supply required, ...	...	...	1	..	...	...	...
Water-Closet accommodation required, ...	...	..	...	...	..	...	1
Water Storage Cisterns dirty, uncovered, or unventilated, ...	...	...	...	...	...	...	1
Water Supply Pipes defective—tenants without water, ...	46	28	79	75	62	19	14
Bakehouses—Dirty, ...	...	...	3	6	1	..	1
,, —Other nuisances, ...	...	...	...	2	...	...	...
Workshops—Dirty, ...	...	2	3	4	3	2	1
,, —Overcrowded, ...	...	...	...	...	...	.	...
,, —Defective in light or ventilation,	..	...	1	...	1	...	
,, —Inadequate or defective W.C. or sink accommodation, ...	...	...	..	...	...	..	...
,, Other nuisances, ...	...	...	..	3	...	.	3
Piggeries—Dirty, ...	...	1	..	...	...	...	...
,, —Other nuisances, ...	...	...	...	...	. .	...	.
Pit Shaft without adequate protection, ...	...	...	...	...	...	...	..
Reports to Gas Manager, ...	...	...	...	...	...	...	..
,, Master of Works, ...	39	54	145	189	49	11	49
,, Superintendent of Cleansing, ...	3	...	2	9	4	...	...
,, Water Engineer, ...	108	55	51	112	89	3	8
Prosecutions—Sheriff Court, ...	...	...	...	...	...	...	...
,, —Police Court, ...	...	...	1	2	...	1	1
Number of Rotation Cards for Cleansing of Common Stairs, Lobbies, and Water-Closets served on Tenants, ...	114	229	169	354	367	38	104
Number of Piggeries on Register, ...	1	6	...	...	...	1	.
Number of Inspections, ...	16	58	...	...	...	45	

Section for the Year 1927—*Continued.*

NORTHERN.

8	9	10	11	17	18	19	20	21
20847	13515	14234	16516	28975	25943	23153	10713	12772
1851	1065	1372	1771	2430	2211	1465	974	941
...	..	...	...	...	1	...	...	1
12	10	30	13	26	33	19	9	5
88	37	143	77	112	107	37	42	58
44	29	8	24	25	27	30	16	19
769	494	438	596	882	854	524	414	380
127	71	107	156	317	206	81	76	68
186	31	81	114	161	182	220	29	70
12	22	55	67	55	94	90	6	49
1	...	1	1	1	...	...	...	...
261	141	275	296	420	299	333	208	175
...	...	...	...	...	...	...	...	...
13	31	78	125	41	55	25	32	5
3	3	5	9	8	38	2	7	...
1	10	...	7	...	20	4	3	1
5	...	1	2	16	6	1	4	2
...	...	...	...	...	...	...	...	...
1	...	...	...	...	3	4	...	...
...	30	1	...	...	..	2	...	...
34	9	7	29	47	22	12	4	5
1	7	...	4	19	4	4	...	...
...	...	...	...	...	1	1	1	...
4	4	8	17	28	4	...	2	...
...	...	...	...	...	...	...	...	...
...	...	.	..	1	2	...	...	...
					...	...	...	...
...	...	...	...	1	...	1	1	...
...	1	2	...	3	1	...	...	...
6	4	12	...	4	...	6	...	...
...	...	...	...	.	...	...	...	...
...	...	...	..	...	...	...	...	...
1	...	..	...	4	...	...	...	1
134	80	80	109	123	142	30	44	42
...	...	...	12	...		...	...	1
148	51	40	113	136	110	39	76	59
...	...	..	...	3	...	...	...	...
..	...	1	3	.	5	3	...	...
22	56	91	176	262	172	64	106	57
4	2	3	...	2	...	6	...	8
22	28	38	...	19	6	30	...	32

TABLE XXIII.—(*c*) SUMMARY OF OPERATIONS

CENTRAL.								
12	13	14	15	16	22	23	24	25
20026	20745	21097	19917	19463	18210	16685	18984	39649
1786	1440	1954	1484	1059	331	1901	1286	1434
8	10	2	2	4	...	3	...	...
47	23	38	24	6	1	22	38	18
204	137	217	119	83	30	219	124	100
12	12	28	22	19	14	40	34	39
534	370	631	466	345	105	650	466	670
216	214	247	142	48	17	279	177	91
36	31	98	53	6	4	96	30	14
79	62	41	61	36	80	140	50	29
...	...	...	..	...	...	1	...	...
88	16	240	140	190	2	140	81	239
1	1	...	...	...	...	...	...	...
119	212	155	185	140	23	74	42	33
2	1	6	5	3	3	11	1	4
21	20	19	9	16	11	16	39	31
1	1	4	8	...	...	...	...	5
2	4	1	...	...	...	...	...	1
8	40	...	1	7	5	3	1	9
...	1	32	...	2	...	9	28	...
42	20	14	10	3	1	17	7	2
18	6	10	15	4	...	2	3	4
1	10	1	13	6	1	12	3	2
28	69	7	17	9	1	2	3	3
...	...	...	...	...	...	...	...	...
4	2	...	...	...	...	...	...	...
11	5	...	...	8	...	1	...	...
128	42	15	21	23	1	14	4	1
...	...	...	...	...	1	...	...	..
...	...	...	..	...	...	...	...	..
...	...	...	...	...	...	...	...	...
...	2	2	4	...	...	7	3	...
91	72	47	95	47	9	47	61	52
...	...	...	7	3	8	5	7	2
85	57	99	65	51	14	91	84	85
6	...	...	...	1	...	...	...	..
3	5	1	...	...	...	1	...	3
207	150	157	254	152	96	250	15	37
...	...	...	...	...	5	...	...	8
...	...	...	...	...	41	...	...	26

OF SANITARY SECTION FOR THE YEAR 1927.—*Continued.*

SOUTH-EASTERN.							SOUTH-WESTERN.					CITY.	1926.
26	27	33	34	35	36	37	28	29	30	31	32		
40784	55101	19140	14699	25781	23355	14906	41432	51953	43224	17759	24799	959543	869296
1910	3899	729	883	772	566	575	4213	3446	4322	2633	984	64857	70682
...	1	1	1	...	...	...	15	5	14	1	...	73	72
17	21	3	12	4	8	3	45	41	48	31	3	780	488
209	394	44	174	90	45	46	496	267	607	426	90	6271	6243
31	41	9	4	11	6	4	23	14	17	15	15	887	1485
718	1390	439	428	396	321	269	1298	1203	1370	789	379	23697	25660
127	323	28	101	29	26	20	596	578	809	328	113	6968	7228
201	479	3	18	4	...	5	67	49	117	12	8	3127	4868
163	204	44	42	65	23	10	368	255	380	117	16	3562	3282
1	5	...	...	...	...	...	1	...	...	1	..	14	17
162	400	122	51	117	32	46	266	319	211	408	112	7223	7957
1	2	...	...	...	...	..	10	2	3	...	1	22	23
21	211	10	8	9	13	16	220	48	80	41	18	2453	2370
2	1	...	...	...	...	...	7	6	3	7	2	169	223
36	43	2	14	1	7	21	68	36	78	68	16	760	584
9	31	...	...	1	3	...	7	6	11	...	1	167	151
...	...	...	...	...	...	...	...	..	...	2	4	15	20
1	...	3	...	..	3	...	2	12	2	...	7	113	60
...	...	...	...	...	5	81	...	...	2	...	46	240	670
6	45	...	1	7	...	2	76	43	49	9	13	859	988
3	1	1	1	...	...	5	1	4	7	1	2	138	215
1	2	...	...	...	4	...	3	4	8	8	1	85	154
1	13	...	...	1	...	3	25	8	18	9	2	301	443
...	...	..	...	...	...	...	...	...	...	...	...	...	1
...	...	...	...	...	...	...	...	...	...	...	...	11	10
4	2	...	...	..	...	...	...	...	...	...	..	34	26
2	1	...	...	1	1	1	4	2	13	4	..	291	339
...	...	...	..	...	...	...	...	...	...	...	..	34	26
...	...	...	...	...	...	...	...	...	...	...	...	...	7
...	...	...	...	...	...	...	...	...	...	...	...	...	1
...	1	...	...	...	...	...	...	...	1	...	..	26	23
105	65	9	23	19	1	9	248	262	185	165	51	2983	3135
4	12	...	...	...	1	...	45	8	62	47	23	265	330
85	211	11	5	17	67	36	322	274	227	144	61	3289	3583
...	...	...	...	..	..	...	...	...	...	..	...	10	5
...	2	...	...	...	...	..	4	3	7	...	..	46	56
91	174	169	43	40	42	9	461	558	981	288	83	6638	8220
...	...	...	2	...	1	1	...	...	4	1	1	56	52
...	...	...	14	...	5	5	...	...	7	7	1	400	310

TABLE XXIII.—(*c*) Summary of Operations of Sanitary

District.	EASTERN.						
Ward.	1	2	3	4	5	6	7
II. Drain Testing.							
Total number of Applications of the test at different times, ...	509	226	106	77	58	100	94
Number of new Applications for satisfaction of Dean of Guild Court, ...	328	135	5	14	8	5	51
Number of old Tenements or Systems to which they were applied for the first time,	35	39	42	25	22	45	21
Number of these found all right on first application of Test, ...	2	12	5	3	4	9	10
Number found more or less defective on first application, ...	33	27	37	22	18	36	11
III. Houses Let in Lodgings and Farmed-out Houses.							
Number Inspected, Measured, and Registered,	...	...	...	1	...	...	...
Number now on Register, — Houses Let in Lodgings,	2	...	2	5	1	...	..
Number now on Register, — Farmed-out Houses, ...	...	...	...	157	33	...	...
Number of Re-inspections by Day, ...	...	...	8	2139	851	93	..
Do. do. by Night, ...	...	...	...	844	132	...	...
Do. of Keepers Summoned for Contravening Regulations, ...	...	...	...	...	...	...	..
Do. do. Fined for same, ..	...	...	...	...	...	...	...
Amount of Fines, ...	...	...	...	..	...	.	..
IV. Visits by Female Inspectors.							
Number of Houses visited, first time, ...	1536	5755	1634	3531	4035	3257	40
Number of Houses in which Lodgers were found, ...	128	431	43	101	148	155	12
Number of Houses and Bedding found Dirty, dealt with by statutory notice,	35	183	23	61	135	49	6
Number of Houses revisited, ...	80	520	77	163	157	81	19
Number of Houses found improved, ...	46	223	51	81	110	63	10
Number of Nuisances reported by Female Inspectors, ...	79	179	24	62	72	59	14
Number of Infectious Disease Cases reported,	14	60	6	11	21	33	7
Under the Glasgow Corporation (Police) Order, 1904, dealing with Filthy Houses and Dirty or Verminous Children :—							
Number of Visits to Schools, ...	151	103	98	120	127	44	4
Number of Children submitted for inspection, ...	1377	2786	2259	2356	2287	1002	456
Number of Children found Verminous,	231	378	572	579	547	220	10
Number of Children found Dirty, ...	226	406	245	239	166	78	38
Number of Homes inspected,... ...	324	422	598	563	382	405	51
Number of Homes Re-inspected, ...	83	68	53	71	95	103	5
Number of Dirty Houses, ...	8	9	11	10	10	10	1

SECTION FOR THE YEAR 1927—*Continued.*

NORTHERN.

8	9	10	11	17	18	19	20	21
152	72	234	75	81	95	280	5	125
33	4	184	7	14	11	124	6	73
66	34	15	36	38	46	59	22	17
15	7	2	6	8	17	17	4	7
51	27	13	30	30	29	42	18	10
...	...	...	...	...	...	...	...	...
...	1	1	2	3	4	...	...	...
...	...	...	10	24	...	...	...	...
...	15	2	98	160	1	...	...	1
...	2	...	12	120	...	...	...	...
...	...	...	...	...	...	...	...	
...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...
2910	226	1189	1360	1781	2014	5019	503	1080
150	10	135	84	222	252	673	53	121
187	12	46	84	64	126	190	25	52
297	24	85	184	304	223	646	35	81
180	12	65	88	69	121	208	25	56
18	2	12	7	23	32	85	8	46
2	...	1	...	...	1	5	...	...
58	22	41	45	93	69	29	2	51
951	322	645	267	1637	1278	250	3	640
644	161	361	183	699	488	90	2	304
96	32	76	34	27	106	12	1	27
290	111	164	121	520	454	284	136	172
5	9	5	12	75	36	11	3	7
9	5	11	8	11	21	10	2	11

TABLE XXIII.—(*c*) SUMMARY OF OPERATIONS

CENTRAL.								
12	13	14	15	16	22	23	24	25
43	77	93	56	61	143	111	91	1044
7	24	10	7	8	78	7	9	559
13	23	33	21	27	21	54	41	54
1	4	4	2	4	9	11	7	9
12	19	29	19	23	12	4[illegible]	34	45
...	...	...	...	...	...	...	...	...
5	8	1	9	...	...	3	2	6
348	...	53	...	...	...	29	...	...
2598	61	769	7	...	...	396	1	12
2474	95	237	20	...	...	207	6	22
2	...	...	...	...	...	...	...	...
2	...	...	...	...	...	...	...	...
£8	...	...	...	...	..	...	...	...
6879	4091	8629	4143	672	4	2935	941	653
451	221	264	133	16	...	231	62	61
34	28	79	35	4	...	6	6	2
87	79	318	143	25	3	161	37	18
36	26	49	33	4	2	91	29	12
...	...	..	...	...	...	...	...	...
..	.	..	...	...	. .	...	...	...
59	1	78	39	12	...	4	12	14
1448	2	1591	613	96	...	7	151	228
63	...	189	65	4	...	4	25	40
9	...	78	37	1	...	...	4	4
250	...	216	144	14	...	9	43	76
...	7	22	20	2	...	2	2	5
1	3	12	11	...	...	1	2	5

OF SANITARY SECTION FOR THE YEAR 1927—*Continued.*

SOUTH-EASTERN.							SOUTH-WESTERN.					CITY.	1926.
26	27	33	34	35	36	37	28	29	30	31	32		
107	69	315	243	336	235	664	47	69	137	63	322	6663	4793
54	2	251	200	297	163	558	3	29	27	5	37	3337	1465
25	36	16	8	14	25	2	26	14	17	19	24	1075	894
1	...	9	3	4	18	1	1	...	...	1	7	224	87
24	36	7	5	10	7	1	25	14	17	18	17	851	807
...	...	...	...	...	...	...	...	...	...	...	...	1	16
...	17	...	...	...	...	...	11	...	3	...	...	86	105
...	96	...	...	...	...	...	12	...	...	...	...	762	1067
...	1247	...	...	...	...	...	401	3	32	...	...	8695	6493
...	209	...	...	...	...	...	29	...	...	...	...	4409	1242
...	...	...	...	...	...	...	...	...	...	...	...	2	...
...	...	...	...	...	...	...	...	...	...	...	...	2	...
...	...	...	...	...	...	...	...	...	...	...	...	£8	...
2864	6828	5	138	613	...	3	3254	2173	1860	67	326	83308	62925
287	816	..	10	56	...	4	245	30	206	9	9	5829	4575
164	424	2	11	4	...	2	48	33	83	6	6	2255	3527
416	694	4	18	22	...	4	84	80	93	5	8	5275	5310
170	449	1	16	4	..	3	61	47	83	3	5	2532	3905
...	...	...	...	...	...	...	4	13	16	...	...	755	210
...	...	...	...	...	...	...	...	...	1	...	...	162	41
123	177	13	72	81	...	9	83	108	127	68	14	2190	2199
2519	3126	86	816	907	...	50	1228	3642	3000	644	257	38927	34587
378	432	16	86	117	...	14	117	383	512	112	25	8149	8819
54	154	3	27	16	...	4	49	51	38	14	3	2355	1727
308	420	8	92	41	1	13	448	543	567	131	29	8350	9727
7	6	...	1	2	..	...	8	8	26	5	1	765	496
15	25	...	3	3	...	1	7	8	18	3	2	267	501

TABLE XXIII.—(*c*) SUMMARY OF OPERATIONS OF SANITARY

District.	EASTERN.						
Ward.	1	2	3	4	5	6	7
IV. Visits by Female Inspectors— *Continued.*							
Number of Dirty Bedding, ...	12	6	9	5	5	7	...
Number of Notices served, ...	53	68	72	55	89	34	5
Number of Houses Cleaned in consequence, ...	7	7	3	6	2	4	.
Number of Bedding Cleaned in consequence, ...	14	2	6	3	3	6	..
Number of Bedding Cleaned at Sanitary Wash-house, ...	...	...	...	...	...	...	..
Number of Children Cleaned by Guardians, ...	390	685	686	821	805	333	178
Number of Children Cleaned by Officers, ...	...	.	...	...	...	1	...
Number of Applicants supplied with Insecticide, ...	...	...	...	2138		...	.
V. Factories, Workshops, and Home-workers' Dwellings.							
Total number of Workshops on the Registers at 31st December, ...	72	76	81	199	73	77	54
Measured and Registered during the Year,	...	3	3	...	2	3	...
Total Inspections made, ...	589	327	509	1655	892	1079	152
Number of Workshops found dirty, ...	...	2	3	4	3	2	1
Number found Overcrowded, ...	...	...	...	..	...	...	...
Number found defective in Light or Ventilation, ...	...	...	1	...	1	...	...
Number found with inadequate or defective W.C. or Sink Accommodation, ...	...	...	...	...	...	...	...
Number of other Nuisances found, ...	...	...	...	3	...	...	3
Number who carried out Improvements suggested by Inspector, ...	...	2	4	7	4	2	4
Prosecutions, ...	...	...	...	...	...	...	...
Convictions, ...	...	...	...	...	...	...	...
Number of Visits made under the Homework Order, ...	20	14	75	37	58	18	8
Number of Premises found dirty and Intimations issued, ...	...	...	...	...	...	...	...
VI. Bakehouses.							
Number of Inspections for Cleanliness, &c.,	65	46	52	144	150	210	35
Number of Warnings issued for neglect of Cleanliness, ...	...	...	3	6	1	...	1
Number of other Nuisances found, ...	...	..	...	2	...	...	..
VII. Rag Flock Act, 1911.							
Samples submitted for Analysis, ...	...	8	1	4	5	4	2
Certified not to conform to Standard, ...	...	...	...	..	.	...	...
Proceedings instituted, ...	...	...	...	..	...	...	...
Convictions, ...	...	...	...	..	...	...	...

SECTION FOR THE YEAR 1927—*Continued.*

NORTHERN.

8	9	10	11	17	18	19	20	21
3	1	3	4	13	7	5	1	2
46	3	14	9	25	41	3	...	27
3	5	4	5	10	17	4	2	6
3	1	2	2	10	8	3	1	...
..	..	...	...	...	...	...	...	...
606	195	415	194	631	580	95	1	303
...	...	...	...	...	...	...	...	4
...	...	...	2018		...	...	...	...
30	54	15	93	138	167	55	57	63
...	3	3	2	31	10	1	1	4
259	183	103	315	436	454	171	33	230
4	4	8	17	28	4	...	2	...
...	...	...	...	..	...	...	...	...
...	...	...	...	1	2	...	...	...
...	...	...	...	1	...	1	1	...
...	1	2	...	3	1	...	...	...
...	1	2	...	5	3	1	1	...
...	...	...	...	...	...	..	...	...
...	...	..	...	...	...	...	...	...
5	18	9	25	39	16	20	12	4
...	...	...	1	...	...	...	1	...
9	44	2	30	96	106	29	17	39
1	7	...	4	19	4	4	...	...
...	...	...	...	...	1	1	1	...
...	...	...	...	8	...	1	...	2
...	...	...	...	.	..	..	..	...
...	...	...	...	...	..	...	...	...
...	...	...	..	...	...	..	...	...

TABLE XXIII. —(*c*) SUMMARY OF OPERATIONS

CENTRAL.								
12	13	14	15	16	22	23	24	25
...	3	8	6	...	...	1	1	3
65	3	253	89	5	...	1	1	3
1	3	11	12	...	...	...	1	
...	3	8	6	...	...	...	1	3
...	...	...	...	...	...	...	...	...
72	2	257	100	2	...	...	25	24
...	...	...	...	...	..	...	...	...
...	...	...	...	1236		...	...	...
319	448	75	236	173	90	132	65	88
6	26	7	9	7	2	4	5	12
3956	2655	681	1179	1059	131	432	182	169
28	69	7	17	9	1	2	3	3
...	...	...	...	...	...	...	...	...
4	2	...	...	...	...	...	...	...
11	5	...	...	8	.	1	...	...
128	42	15	21	23	1	14	4	1
171	118	22	38	40	2	17	7	4
5	...	..	...	...	...	...	...	...
5	...	...	...	...	...	...	...	...
194	69	9	19	12	...	11	3	6
...	...	...	...	...	...	...	...	...
47	105	22	169	48	23	117	38	66
18	6	10	15	4	...	2	3	4
1	10	1	13	6	1	12	3	2
13	3	...	...	...	...	2	1	1
.	...	..	...	..	...	..	...	...
..	...	...	...	...	..	...	...	...
...	...	...	...	...	..	..	..	...

OF SANITARY SECTION FOR THE YEAR 1927—*Continued.*

SOUTH-EASTERN.							SOUTH-WESTERN.					CITY.	1926.
26	27	33	34	35	36	37	28	29	30	31	32		
7	20	...	11	2	...	...	1	3	16	2	1	168	163
22	45	...	14	5	...	1	171	435	514	124	31	2326	4100
16	39	...	4	4	...	1	6	8	13	2	1	209	391
6	21	...	11	2		...	2	2	10	1	1	141	110
...	...	...	...	...	...	...	...	...	...	...	...	...	...
422	559	20	100	125	...	13	170	439	490	127	19	9884	4148
...	...	...	...	...	..	...	3	...	...	...	...	8	...
...	...	...	1502		...	...	...	...	1263		...	8157	9042
75	290	81	57	82	39	34	240	129	116	58	91	4222	4275
8	4	1	1	3	1	1	6	1	3	4	2	179	227
231	546	265	182	144	107	136	951	404	333	249	210	21589	18049
1	13	...	...	1	...	3	25	8	18	9	2	301	448
...	...	...	...	...	...	...	...	...	...	...	...	...	1
...	...	...	...	...	...	...	...	...	...	..	...	11	8
4	2	...	...	...	...	...	...	...	...	...	...	34	17
2	1	...	...	1	1	1	4	2	13	4	...	291	325
7	16	...	...	2	1	4	29	10	31	13	2	570	747
...	...	...	...	...	..	...	...	...	...	...	...	5	...
...	...	...	...	...	...	...	...	...	...	...	...	5	...
28	93	5	16	26	25	17	8	25	3	9	...	956	1015
...	...	...	...	...	...	...	...	...	...	...	...	2	...
32	76	72	58	26	32	28	36	36	78	15	9	2207	2185
3	1	1	1	...	...	5	1	4	7	1	2	138	181
1	2	...	...	...	4	...	3	4	8	8	1	85	159
...	...	...	...	...	...	...	3	2	1	3		64	68
...	...	...	...	...	...	...	...	...	1	1	...	2	2
...	...	...	...	...	...	...	...	...	1	...	...	1	2
...	...	...	...	...	...	...	...	...	1	...	...	1	...

TABLE XXIII.—(*c*) SUMMARY OF OPERATIONS OF SANITARY

District.	EASTERN.						
Ward.	1	2	3	4	5	6	7
VIII. Common Lodging-houses and Boarding-houses for Emigrants and Seamen.							
Common Lodging-houses Inspected, Measured, and Registered, ...	...	...	..	...	...		...
Number of Re-inspections by Day, ...	19	...	6	598	2	..	..
Do. do. by Night, ...	...	...	...	47	...	...	...
Do. Structural Defects found and remedied, ...	...	...	..	...	...	...	...
Do. Intimations of Irregularities to Keepers, ...	...	...	...	4	...	...	..
Do. Keepers summoned for contravening Regulations, ...	...	. .	...	...	...	...	...
Do. Keepers fined for contravening Regulations, ...	...	...	...	...	...	...	...
Do. Removed from the Register, ...	...	...	...	...	...	.	...
Total Number of Common Lodging-houses now on Register, ...	1	..	...	10	...	.	...
With Accommodation for	404	...	...	2404	...		...
Boarding-houses Measured and Registered,	...	...	...	...	...	.	...
Total Number of Boarding-houses, ...	...	...	...	...	...	...	...
With Cubic Capacity for	...	...	...	..	...	...	...
Number of Re-inspections, ...	...	...	..	...	...	...	...
Do. Intimations of Irregularities to Keepers, ...	...	...	...	...	...	...	...
IX. Night Inspections							
(Of HOUSES TICKETED under GLASGOW POLICE ACTS, 1866 to 1890.)							
Total Number of Houses ticketed for first time during year, ...	...	...	...	...	...	...	...
Total Number of Ticketed Houses, now on the Registers, ...	207	456	1175	1492	1113	323	55
Total Number of Inspections for Detection of Overcrowding, ...	220	878	4118	4211	3770	1300	140
Total Number of Cases of Overcrowding,	28	105	562	559	471	161	15
Total Number warned by Inspectors, ...	28	105	562	559	471	161	15
Total Number admonished by Magistrates in Police Courts, ...	...	...	...	...	...	...	...
Total Number fined by Magistrates in Police Courts, ...	...	...	...	...	...	...	...
Cubic feet of space in worst cases of Overcrowding, instead of 400, only	200	168	147	133	160	171	90
Number of Cases of Overcrowding in houses under 900 cubic feet of space, ...	...	...	16	27	21	2	...

SECTION FOR THE YEAR 1927—*Continued.*

NORTHERN.

8	9	10	11	17	18	19	20	21
...	...	...	...	...	...	...	...	...
...	...	...	17	38	12	...	...	17
...	...	...	2	6	1	...	...	1
...	...	...	...	...	...	...	...	...
...	...	...	3	1	...	...	...	...
...	...	..	..	...	...	...	...	...
...	...	...	...	...	...	...	...	. .
...	...	...	...	...	...	...	..	...
...	..	...	1	4	1	...	...	1
...	...	...	379	953	675½	...	...	158
...	...	...	...	..	...	...	...	...
...	...	...	...	...	..	...	...	...
...	...	..	..	..	..	...	...	...
...	...	...	...	...	...	...	...	...
...	...	..	...	...	...	...	...	...
...	...	...	...	..	..	...	...	...
1386	19	64	484	1989	1374	168	...	316
5139	22	64	1591	5228	4707	556	...	591
913	3	23	279	792	722	88	...	82
913	3	23	279	792	722	88	...	82
...	...	...	..	...	...	...	...	...
...	...	...	...	...	...	...	...	...
100	240	208	180	114	214	272	...	171
21	...	2	11	21	15	...	...	1

TABLE XXIII.—(*c*) SUMMARY OF OPERATIONS

CENTRAL.								
12	13	14	15	16	22	23	24	25
...	...	...	...	...	...	...	...	...
260	731	66	45	...	...	46	...	29
39	26	6	5	...	...	6	...	6
...	...	...	..	...	...	...	..	...
16	2	34	.	...	...	22	...	...
...	...	...	...	...	...	...	...	..
...	...	...	...	...	...	...	...	...
...	...	..	...	...	...	...	...	...
7	5	1	1	...	...	1	...	1
827	963	302	343	...	...	312	...	364
...	...	...	...	...	...	...	...	...
...	13	3	..	...	...	...	...	..
...	380	143	..	...	...	...	...	...
...	110	152	.	...	...	...	...	...
...	..	...	..	...	...	...	...	...
...	..	.	...	...	...	...	...	..
291	429	1187	482	...	...	405	37	..
1858	2767	6605	2465	...	...	2330	222	..
207	194	1018	388	...	...	315	18	...
207	194	1018	388	..	..	315	18	...
...	...	...	...	...	...	...	...	...
...	...	..	...	...	...	...	..	...
161	162	163	128	...	...	150	214	...
30	19	23	32	...	...	...	...	...

OF SANITARY SECTION FOR THE YEAR 1927—*Continued.*

SOUTH-EASTERN.							SOUTH-WESTERN.					CITY.	1926.
26	27	33	34	35	36	37	28	29	30	31	32		
...	...	...	...	...	..	...	...	...	...	...	...	...	...
...	20	...	...	...	...	..	88	112	60	...	...	2166	1479
...	4	...	..	...	...	...	5	2	1	...	...	157	95
...	...	...	...	..	...	...	...	...	...	...	..	...	...
...	...	...	...	...	...	...	...	2	5	...	...	89	97
...	..	...	...	...	...	..	...	...	...	...	...	. .	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	1
...	2	...	...	...	...	..	1	2	1	...	..	40	40
...	861½	...	...	...	..	...	450	947	407	...	...	10750	10600
...	...	...	..	...	...	...	...	...	...	...	...	..	...
...	...	...	...	...	...	..	...	...	1	...	...	17	17
...	...	..	...	...	...	..	...	...	53	...	...	576	576
...	...	...	...	...	...	..	...	...	15	...	...	277	113
...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	..	...	...	...	...	..	...	...	...	...	...	...	...
369	1661	..	..	...	...	...	624	88	582	...	108	16884	17858
616	3197	..	...	...	..	...	2105	264	1078	...	432	56774	31313
58	325	...	...	..	...	..	283	28	117	..	64	7818	3694
58	325	...	...	...	...	.	283	28	117	...	64	7818	3694
...	...	...	...	...	...	..	...	...	...	...	...	...	...
...	...	..	...	...	...	. .	...	...	...	...	...	...	...
388	200	...	...	...	...	..	156	247	171	...	177	90	133
1	12	...	...	...	...	...	7	...	2	...	..	263	162

TABLE XXIV.—GLASGOW.—POPULATION; BIRTHS AND DEATHS; BIRTH-RATES AN DEATH-RATES PER 1,000; ALSO DEATHS UNDER 1 YEAR, AND DEATH-RATES PER 1,00 BIRTHS SINCE 1860.

Year.	Population.	Births.	Deaths.	Birth-rate per 1,000.	Death-rate per 1,000.	Deaths under 1 Year	
						Number.	Rate per 1,000 Births.
1860†	389,843	15,943	12,436	40·8	31·9	2,905	182
1861	397,673	16,537	10,936	41·6	27·5	2,544	154
1862	405,789	16,400	11,565	40·4	28·5	2,562	156
1863	413,944	16,986	13,329	41·0	32·2	2.774	163
1864	420,738	17,411	13,674	41·4	32·5	3,051	175
1865	428,123	17,956	13,914	41·9	32·5	3,097	173
1866	437,850	18,288	12,829	41·8	29·3	2,905	159
1867	446,028	18,347	12.578	41·1	28·2	2,895	158
1868	455,000	18,607	13,832	40·9	30·4	3,127	168
1869	464,332	18,495	15,648	39·8	33·7	3,411	184
1870	471,453	19,355	13,955	41·1	29·6	2,991	155
1871	491,900	18,867	15.790	38·4	32·1	3,608	191
1872	494,824	20,158	14,053	40·7	28·4	3,198	159
1873	494,847	19,487	14,499	39·4	29·3	3,255	167
1874	498,270	20.039	15,845	40·2	31·8	3.240	162
1875	499,480	20,825	15,384	41·7	30·8	3,388	163
1876	502,299	20,981	13,763	41·7	27·4	3,166	151
1877	504,487	21,124	13,823	41·9	27·4	3,106	147
1878	507,420	20.622	14,157	40·6	27·9	3,285	159
1879	508,048	19,751	12,498	38·8	24·6	2,504	127
1880	509,732	18,912	13.304	37·1	26·1	2,842	150
1881	512.034	19,106	12,916	37·3	25·2	2,745	144
1882	517,904	19.735	13.046	38·1	25·2	2,959	150
1883	523,154	19,911	14.577	38·1	27·9	3,091	155
1884	528,459	20,557	13,942	38·9	26·4	3,094	151
1885	533,817	19,861	13,492	37·2	25·3	3,100	156
1886	539,231	19,862	13,104	36·8	24·3	2,786	140
1887	544,700	19,328	12,135	35·5	22·3	2,676	138
1888	550,226	19,309	11,681	35·1	21·2	2,560	133
1889	555,808	19,503	13,139	35·1	23·6	3,008	154
1890	561,447	19,279	13.374	34·3	23·8	2,880	149
1891	567,143	19,857	14,324	35·0	25·3	2,946	148
1892	669,059*	22,815	15,218	34·1	22·7	3.168	139
1893	677,883	23,173	15,798	34·2	23·3	3,649	157
1894	686,820	22,644	13,673	34·0	19·9	2,937	130
1895	695.876	22,803	16,344	32·8	23·5	3,538	155
1896	705,052	24,029	14,385	34·1	20·4	3,278	136
1897	714,919	23,880	15,727	33·4	22·0	3,826	160
1898	724,349	24,262	15,333	33·5	21·2	3.792	156
1899	733,903	24,249	15,828	33·0	21·6	3,696	152
1900	743,969	24.362	16,393	32·7	22·0	3,778	153
1901	761,925	24,206	16,197	31·8	21·2	3,607	149
1902	762,789	24,722	15,532	32·4	20·4	3,206	129

* Extended City.

† For earlier years, see Report for 1910, Table liii.

TABLE XXIV—*Continued.*

Year.	Population.	Births.	Deaths.	Birth-rate per 1,000.	Death-rate per 1,000.	Deaths under 1 Year.	
						Number.	Rate per 1,000 Births.
1903	763.654	25,135	15,073	32·9	19·7	3,663	146
1904	764,521	24,754	15,414	32·4	20·2	3,606	146
1905	765,389	24.316	14,460	31·8	18·9	3,195	131
1906	780,192*	24,560	14,889	31·5	19·1	3,223	131
1907	781,080	24,006	15,659	30·7	20·0	3,116	130
1908	781.969	23,915	15,265	30·6	19·5	3,284	137
1909	782,860	23,140	15,242	29·6	19·5	3.073	133
1910	783.785	22,222	13,395	28·4	17·1	2,694	121
1911	784.680	21,755	13.899	27·7	17·7	3,016	139
1912	785,600	22,044	13,797	28·1	17·6	2,740	124
1913‡	1,021,789*	28.688	17,693	28·1	17·3	3,706	129
1914	1,028,440	29.462	17,522	28·6	17·0	3,913	133
1915	1,035,091	27,943	20,159	27·0	19·5	4,007	143
1916	1,041,742	27,094	16,601	26·0	15·9	2,996	111
1917	1,048.393	24,030	16,691	22·9	15·9	3,089	129
1918	1,055,044	23,524	18,362	22·3	17·4	2,660	113
1919	1.061,695	25,835	18,237	24·3	17·2	2,937	114
1920	1,068,346	32,626	16.765	31·5	15·7	3,477	107
1921	1,075.000	29.712	15,625	27·6	14·5	3,138	106
1922	1,081,933	28.298	17,850	26·2	16·5	3,401	120
1923	1.088.987	26,710	14,875	24·5	13·7	2.388	89
1924	1,095,969	25,330	16.868	23·1	15·4	3,005	119
1925	1.097,841	25,416	15,336	23·2	14·0	2,591	102
1926	1,121,516*	24,541	15,731	22·1	14·2	2,548	104
1927	1,130,675	23.578	15,439	20·9	13·7	2.527	107

* Extended City.

‡ Births and Deaths from 1913 are corrected for transfers.

PART II

ANNUAL REPORTS

OF

FEVER AND TUBERCULOSIS HOSPITALS AND SANATORIA

FOR THE YEAR

1927

BELVIDERE FEVER HOSPITAL.

On 1st January, 1927, there remained in hospital from the previous year 774 cases. 6,067 patients were admitted during the year. This figure is considerably in excess of the average, but practically the same as for 1926.

The average duration of residence of patients discharged was 40 days. Among fatal cases this figure was 12 days.

5,529 patients were discharged well, and 686 deaths occurred, the mortality rate being 11 per cent.

The admissions for scarlet fever were less than in 1926, but there was a remarkable increase in the admissions for diphtheria. Pneumonia showed a decrease compared with the previous year, the figure being 1,292, whereas that for 1926 was 1,444. The whooping-cough admissions numbered 447. Most of these patients already had serious complications on admission, and the high mortality rate among them, amounting to over 26 per cent., materially affected the general mortality rate, which otherwise would have been one of the lowest on record.

Although the total number of patients dealt with was slightly less than in 1926, the year was a particularly strenuous one for the medical and nursing staffs, on account of the great prevalence of measles, which, although largely dealt with elsewhere, gave risen to a great number of double infections. Since pneumonia became notifiable, it has been necessary to retain each winter three or four, or more, wards for that disease. In the year under review most of the admissions to these wards were young infants, many of them under a year, and during the prevalence of measles, in spite of every possible precaution, exposure to measles was not infrequent. During the epidemic period practically one in every three patients notified as suffering from pneumonia was found on arrival at the hospital to be infective for measles, either in the early catarrhal stage of the disease or still showing evidence of rash. Similarly, the diphtheria wards were liable to exposure, inasmuch as during the height of the measles prevalence at least one in every three cases notified as "laryngeal diphtheria" or "membranous croup" proved on admission to be in the early and most infective stage of measles. For the last four months of the year the problem of adequately guarding against cross-infection was very acute, as half the admissions gave histories of exposure to measles. Measles occurred in every possible combination with the other infections, and among every class of admissions there were examples of exposure to measles. These difficulties presented many administrative problems, and combined to make 1927, already a heavy year in point of actual numbers, one of special activity for all branches of the staff.

Physical Condition.—The improvement in the physical condition of the patients, noted in last year's Report, was maintained, and there was also some slight but welcome improvement with regard to general cleanliness. In this respect much still remains to be desired. Many young children, even infants under six months, were admitted in a filthy and verminous condition. The incidence of verminous heads remained high.

Scarlet Fever.—The admissions for scarlet fever were somewhat less than in 1926. The disease was of a very mild type, only 17 deaths occurring among the 1,865 treated. The mortality rate was 0·9 per cent., the lowest on record. The use of scarlatinal antitoxin was confined to those cases where the symptoms were relatively severe or were very mild or indefinite. The response in the former was satisfactory, save in a small minority the symptoms were alleviated within forty-eight hours. It is, however, disappointing to record that in two true toxic cases even massive doses of serum did not appreciably benefit the patients and did not prevent a fatal issue. In the latter group serum was employed with the object of preventing re-infection or affording protection where the diagnosis was in error. Here serum was signally successful, although with the doses usually advised protection could not be relied upon for more than ten days. Routine use of anti-scarlatinal serum has not been advised on the ground of :—

(1) Expense;

(2) The mildness of the epidemic and relative absence of complications; and

(3) The possibility that mild cases treated with serum do not develop a lasting active immunity and may therefore be more liable to further attacks either of scarlet fever or other streptococcal infections.

Serum rashes occurred in 4 per cent. of the serum-treated cases. They were all of urticarial type and not severe, being rarely associated with pyrexia. This factor, which in the early days of serum was a formidable one, may now be discounted.

The experience of 1925-26 was that complications were fewer and less severe in serum-treated cases. The 1927 epidemic was of so mild a nature that the non-serum treated cases were not a reasonable basis of comparison, but the incidence of complications in the serum-treated cases was very low.

The Schultz-Charlton test was extensively employed and was found helpful in doubtful cases. The Dick test has only a limited field of usefulness in scarlet fever wards. Its application sometimes helped in establishing a diagnosis, but its chief value lay in determining when susceptibility was apparently re-established, thus permitting susceptibles either to be passively immunised or removed from the atmosphere of infection.

Scarlet Fever and Diphtheria.—As in previous years, a considerable number of patients certified as scarlet fever were found on admission to be suffering coincidently from diphtheria. In a few of these cases the diphtheritic infection was primarily nasal. Similarily, a small proportion of diphtheria certifications were found to be infected with scarlet fever as well. The closest scrutiny of admissions does not prevent occasional crossing of diphtheria wards with scarlet fever, but the application of the Dick test and passive immunisation of susceptibles permitted wards so exposed to receive again with the minimum loss of time. This was helpful, as the number of diphtheria notifications was very large. Before the Dick test was available the crossing of diphtheria wards with scarlet fever necessitated the holding up of admissions, and resulted in a great loss of beds. There was very little crossing of scarlet fever wards with diphtheria. In the few instances where it occurred it arose chiefly from primary nasal infection, and swabbing, combined with the use of the Schick test and passive immunisation, reduced to a negligible figure the loss of accommodation from that source.

Apart from the culturing of diphtheria admissions and all suspicious scarlet fever admissions, cultures were taken prior to dismissal in each disease. In scarlet fever these cultures were limited to children under ten years, except under special circumstances, as, for example, where tonsils had been removed or where discharges persisted. In no instance was the removal of tonsils followed by diphtheritic infection, and, so far as was ascertained, no case of diphtheria occurred among the scarlet fever dismissals within fourteen days of leaving hospital.

Aural Work.—A Consulting Aurist was in attendance at least twice weekly, and all ear and nose affections were submitted to him. Tonsils and adenoids were removed in a large number of patients suffering from aural or nasal discharges. In all but a few instances this measure was effective in limiting the period of discharge to about a fortnight, and permitted earlier dismissal of such patients. Where necessary modified mastoid operations were performed with uniformly good results. A number of diphtheria carriers were successfully dealt with by removal of tonsils and adenoids.

Diphtheria.—1,249 verified cases of diphtheria were treated—547 males and 702 females. The mortality rate, 3·36 per cent., is the lowest recorded in the history of the hospital. In males the mortality rate was 3·3 per cent., in females 3·4 per cent. During the greater part of the year the disease was of average severity, and cases with extensive local lesions, hæmorrhagic cases, and laryngeal cases were not appreciably less than usual. The dosage of serum employed was similar to that used in 1926, and the lessened mortality was probably not due to any change in the methods of treatment but to the earlier reception of patients, and more especially to the admission to hospital of a large number of patients suffering only from bacteriological diphtheria.

In the latter part of the year a new serum, which enjoys a considerable vogue on the Continent and in some parts of this country, and is prepared by a Continental State Department, was used to a limited extent by way of comparison with the products of Burroughs, Wellcome, & Co., and Parke, Davis, & Co. It proved to be less concentrated, and gave rise to a greater percentage of serum rashes, some of which were of severe character. These defects more than outweighed its advantage on the ground of cost.

For some years diphtheria has been increasing. The 1925 figure was 765, the 1926 one 1,007. The increase in 1927 to 1,249 made it necessary to provide two additional wards for diphtheria and correspondingly reduced the accommodation for other conditions. The proportion of bacteriological cases sent to hospital is increasing. These cases require very little treatment, and it is questionable whether they are so actively infective to others as has hitherto been supposed. Considered in relation to housing conditions, the delay necessarily associated with virulence tests makes hospital provision necessary for many of these patients, but due care is exercised that their stay in hospital is strictly limited to their period of infectivity.

Schick Test.—As in previous years, probationer nurses were offered the Schick test, and those found susceptible received full immunising courses. It has not been found practicable to perform the test until the nurses have completed their three-months period of probation. The process of immunisation is slow, and the nurses are approximately six months in hospital before they can be regarded as immune. Under these conditions, it is impossible wholly to stamp out diphtheria among the staff, but the incidence of the disease has been greatly diminished, and such cases as have occurred have been, with one exception referred to below, confined to the younger probationers who had not yet been immunised, or to the older members of the staff, where testing and immunisation had not been practised. It is of some interest to record the case of a nurse who received the last of four immunising doses on 21/12/26, and who developed clinical diphtheria (confirmed bacteriologically) on 13/1/28. She had been re-tested in March, 1927, and had been found immune. This is probably an altogether exceptional occurrence, but it indicates that the acquired immunity is not always so lasting as has hitherto been claimed. Re-testing at two or three-monthly intervals would seem desirable, but in view of the fact that nurses submit to vaccination against smallpox, inoculation against the enteric group, Schick and Dick testing and immunisation, it does not appear reasonable to place this further burden upon them.

Dick Test.—Among patients a considerable amount of work on the Dick test was done during the year, some of the results of which have been published elsewhere (Dr. Robert Cruickshank in *Glasgow Medical Journal*, January, 1928). The test has also been applied to a proportion of the nursing staff, but active immunisation has not been pursued. The published results of various workers are by no means uniform, and active immunisation must still be regarded as in the experimental stage. It would appear that the immunity acquired is of very variable duration, and it is by no means certain that immunised individuals are not rendered more susceptible to other streptococcal conditions although protected against scarlet fever. The value of the Dick test in diphtheria wards exposed to scarlet fever has already been referred to. This is probably its most useful application in a fever hospital. As the result of a large number of tests performed at various stages of scarlet fever it was found that all but a small percentage became negative by or before the tenth day, and remained negative during their stay in hospital. In those cases where the Dick test was still positive three weeks after admission, passive immunisation was carried out lest re-infection should occur.

As an aid to diagnosis the test was sometimes useful. Hitherto it has been necessary to detain in the Observation Ward doubtful cases certified " scarlet fever " for a period almost as long as if they had been definite cases of that disease. As a rule, these patients presented no signs of scarlet fever when admitted, and the application of the Dick test helped to clear up the diagnosis. It may be assumed that, with few exceptions, the Dick test is positive in early scarlet fever or in susceptibles, and becomes negative within ten to fourteen days where scarlet fever is present. Doubtful cases were therefore re-tested a fortnight after their initial symptoms, and if the result of the test remained unchanged were not regarded as cases of scarlet fever. It is recognised that this method may give rise to a small percentage of error in its findings, but it appears the only alternative to long detention of the patients. In view of the great congestion of the observation wards it was considered justifiable, as it permitted the discharge of the patients early in the third week.

In the early part of the year some interesting, but highly technical, work on the clinical methods of standardising scarlet fever antitoxin was done by Dr. Robert Cruickshank. This will be published elsewhere, but brief reference may be permissible here. Dr. Cruickshank points out that there are four methods of standardisation — one laboratory, and three clinical methods. The former is liable to inaccuracy on account of the relative insusceptibility of laboratory animals. He critically analyses the three clinical methods and tabulates the results of a series of findings in connection with each. The three methods are :—

1. By the use of the Schultz-Charlton phenomenon;
2. By passive immunisation; and
3. By the so-called skin method.

In the first method, dilutions of 1 :1000 to 1 :32000 of the sera to be tested were used, and the maximum dilutions which would uniformly produce blanching were determined. A basis of comparison for the sera to be tested was thus available. Readings were made four-hourly, and it was found that blanching was delayed with the higher dilutions, whereas with 1 :1000 dilutions blanching appeared in five to fifteen hours; twelve to twenty-four hours elapsed with dilutions of 1 :8000. The size of the blanched area varied immensely with the degree of dilution.

In the second method, in Dick positive reactors, the duration of immunity, confirmed by a standard amount of antitoxin, was determined. Three different quantities of serum were used, namely, 2·5 c.c., 5 c.c., and 10 c.c., and Dick tests were performed at regular intervals until the reactors again became Dick positive. In comparing different sera, subjects of equal age giving Dick reactions of equal intensity were selected.

In the third method, susceptible test subjects giving a Dick reaction of 20 mm. with five skin-test doses of toxin were selected. Measured volumes of toxin diluted to contain ten skin-test doses in 0·2 c.c. were mixed in vitro with equal quantities of antitoxin in dilutions of 1 :100 to 1 :1000. 0·2 c.c. of each of the toxin-antitoxin mixtures were injected using a control of toxin alone. The particular mixture which reduced the reaction from 20 mm. diameter to less than 10 mm. was assumed to contain the requisite amount of antitoxin to neutralise five skin-test doses of toxin. The therapeutic dose, *i.e.*, the amount required to neutralise 20,000 skin-test doses, was readily calculated.

The greatest uniformity of results was obtained by this third method.

Pneumonia.—1,378 patients were dealt with, nearly all under the "acute primary" certification. Influenzal cases were few in number, but the acute primary notification was not always justified. 308 deaths occurred, the mortality rate being 22 per cent. This rate is practically the same as for the two preceding years. Admissions were most numerous during the first four months of the year, and there was again a marked increase in November and December. The remarks in the two previous reports apply also to the year now under review. Over 37 per cent. of the patients were children under two years of age, and in this group enteritis was very infrequently present on admission. Babies under six months, not infrequently from the breast, were admitted in considerable numbers, and were often very collapsed on admission. Even under the best conditions of transport, the journey to hospital militates against such infants, and the advantages of hospital treatment scarcely compensate for the change from breast-feeding during a critical illness. Errors in certification were again numerous, especially in young children, in whom enteritis with varying degrees of bronchitis, was frequently designated pneumonia.

Enteric Fever.—The enteric group now plays so unimportant a part in the hospital work that it scarcely merits mention. Although all shipping cases are received at Belvidere, only 40 patients were treated during the year. Of these, 4 died, giving a mortality rate of 10 per cent. True typhosus infections were in the minority, most of the cases being of the para B. type.

Measles.—168 cases were treated, and there were 34 deaths. Roughly four-fifths of these patients were admitted during the latter half of the year, but the mortality was highest during the third quarter. Many of the cases were already complicated by broncho-pneumonia on admission, and enteritis was also frequently present. These conditions and the fact that, except for the last quarter, the year under review was an inter-epidemic period, accounted for the high mortality. During the epidemic of the last quarter for administrative reasons, measles cases were largely diverted to the other hospitals, and increased accommodation for scarlet fever and diphtheria was made at Belvidere. One ward only was available for measles, but another was constantly fully occupied by measles cases complicated with diphtheria, a combination which for a time was very prevalent.

The serum of convalescents was employed with success for the protection of children exposed to measles, but was not available in sufficient quantity for treatment. Through the courtesy of the producers a small quantity of measles antitoxin was available, but it did not appear to influence the course of the disease, nor was it successful prophylactically.

Whooping-Cough.—Whooping-cough was fairly prevalent during the first half of the year, and the type was severe. Many of the patients already suffered from serious complications on admission, and broncho-pneumonia exacted a heavy toll. 444 cases were dealt with, and there were 119 deaths. 64 of the fatal cases were babies under one year. The high mortality rate for hospital-treated cases really refers to a special group selected on account of their severity, and cannot be regarded as reflecting the general mortality for whooping-cough.

Cerebro-Spinal Fever.—Only sporadic examples of this affection occurred. 15 of the 22 cases treated to a conclusion were under 2 years of age, 9 of them being under 1 year. In young children the disease is very frequently fatal, and 12 of the 15 died. 76 patients suffering from other conditions were erroneously certified cerebro-spinal fever.

Roseola.—This mild, but infective, disease is not generally received in hospital. Of the 14 cases which came under treatment, 13 were certified in error , 11 as scarlet fever and 2 as measles.

Chickenpox.—186 cases of chickenpox were treated, and there were 2 deaths. Profuse eruptions were frequent. Many of the cases were received from other institutions and were suffering coincidently from other medical or surgical complaints.

Puerperal Fever.—220 patients were treated to a conclusion, 40 of whom died. This gives a mortality rate of 18·2 per cent., which is slightly higher than in the previous year. The admissions were less than in either of the two previous years. The present widespread interest in the subject of puerperal sepsis justifies a detailed analysis of the work of the year, and the following abridged report by Dr. John Walker makes some attempt to disclose the chief factors of causation. It should be noted that the figures in this report do not correspond exactly with the puerperal figures in the general tables. For general purposes, the tabular statements are based on dismissals during the year, but for the purposes of Dr. Walker's summary it seemed more feasible to base the remarks on the admissions :—

Number of confirmed cases of puerperal fever—221.

ALTERED DIAGNOSES :—TOTAL NUMBER, 28.

ABORTION, ...	12	Simple, ...	3
		Inevitable, ...	6
		Incomplete, ...	3
LUNG CONDITIONS, ...	3	Pleural Effusion, ...	1
		Pneumonia, ...	1
		Pulmonary Phthisis, ...	1
PREGNANCY, ...	5	Pyelitis, ...	2
		Retained Placenta, ...	2
		Neurotic Vomiting, ...	1
GENERAL CONDITIONS, ...	8	Mastitis, ...	1
		Pernicious Anæmia, ...	1
		Secondary Anæmia, ...	1
		Endometritis, ...	3
		Caries of Teeth, ...	1
		Ulcerative Endocarditis, ...	1

Of the total notifications no less than 12·6 per cent. were wrongly diagnosed. Abortions—simple, inevitable, and incomplete—formed the largest proportion of these. Their admission to a ward containing septic cases is fraught with danger, and in each instance a prophylactic dose of anti-streptococcal serum was given. In dealing with many of these cases of abortion it is not sufficiently appreciated generally that any hæmorrhage from the uterus is liable to give rise to reactionary febrile disturbance.

AGE DISTRIBUTION.

Under 20 years.	20-25	25-30	30-35	35-40	40-45	45-50
12	47	70	49	30	12	1

The period 25 to 29 years provided the greatest number of cases, corresponding to the age of greatest fertility.

Marriage.—Married, 207; single, 14; percentage illegitimate, 6·3. These figures are comparable to the general figures for the City, so that illegitmacy does not appear to influence the incidence.

Time of Pregnancy.—Full time, 163; premature, 14. Abortion, 44 = approximately 20 per cent. Septic abortions were too prominent a causal factor. Many of these were induced, and in very few instances were attended by a doctor during their illness. Retained products were invariably the cause of sepsis.

Sex Incidence.—Male, 84; female, 96. Where sex differentiation was possible, it did not appear to influence the incidence of infection.

Multiple Births.—Twins, 7. Multiple fœtation would not appear to play an important part.

State at Birth.—Alive, 164; dead, 64 = 29 per cent. Death of the fœtus appeared to be a contributory cause.

Number of Pregnancies.— ...

Pregnancies, - -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Cases, - - -	71	26	27	32	18	14	8	9	1	6	3	2	1	2	—	1

The first pregnancy was the most susceptible. There was a quick fall and steady decline from the second onwards.

Labour.—Natural birth, 171; breech presentation, 6 = 7·2 per cent.; instrumental, 41 = 18·5 per cent. Instrumental delivery was not such an important factor as is commonly accepted. Difficult labour requiring manipulation contributed, but not to any great extent.

Attendance at Birth.—

Doctors.	Midwives.	Doctor and Nurse.	None.
42	87	53	39
19%	39%	23%	17·6%

The high incidence among those patients attended by doctors, or by doctors in conjunction with midwives or nurses, may be accounted for by difficult or complicated labours. Most of the abortion cases under review received no medical or nursing attention until sepsis manifested itself.

State of Delivery of Placenta.—Whole, 175; broken, 46 = 20·8 per cent. The history of placenta delivered incomplete was of great importance. Retained or broken placenta was one of the commonest remediable causes of puerperal sepsis.

Pyrexia.—

	Number of Days.										
	1	2	3	4	5	6	7	8	–14	–21	+21
	Number of Cases										
(*a*) Onset of fever after birth, ...	40	38	27	14	16	9	7	7	41	15	7
(*b*) Days febrile before admission,	24	59	25	28	26	14	8	7	19	7	4
(*c*) Duration of fever in hospital,	15	43	28	27	16	12	7	7	34	13	19

A.—The onset of fever was variable as regards time. The acceptance of the puerperal morbidity definition of the British Medical Association (Circular No. 10, 1927, Scottish Board of Health) as a criterion of notification is satisfactory in practice, although it does not include those later febrile cases who suffer from puerperal sepsis, and represent a considerable proportion of admissions.

B. — The duration of pyrexia prior to admission is worthy of attention. The increasing recognition of hospital facilities favours the earlier admission of patients, but the stigma that puerperal sepsis is a mark of failure still lingers, and may sometimes explain delay in notification.

C.—Pyrexia was of variable duration, but in a large proportion of the cases it terminated by lysis during the first week in hospital.

Lesions Found.—Septic abortions, 41; perineal tears, 49; vaginal lacerations and sloughs, 29; septic endometritis, 102; retained or broken placentæ, 44; parametritis, 7; salingitis, 17; pelvic cellulitis, 10; pelvic or generalised peritonitis, 13; septicæmia (clinical), 23; pyæmia, 5; phelgmasia, 24; subinvolution, 32; displacements (prolapse, 2; retroflexion, 6; cystocele, 3), 11; vulvo-vaginitis, 3; other disorders and affections, 38. (This last figure includes mastitis, pneumonia, bronchitis, nephritis, pyelitis, phthisis, arthritis, thrombosis, embolism, and post-partum anæmia.) Septic abortions, retained placentæ, tears of passages, and sepsis of the uterus itself were the principal findings.

Bacteriological Findings.—

ORGANISMS CULTURED FROM CERVICAL SWAB.

	Streptococci.	Staphylococci.	Gram positive Diplococci	Diptheroids.	B. Coli.
Number of Cases,	61	35	79	6	26

It is noteworthy that a small gram positive diplococcus (which very rarely fermented inulin) was isolated in no less than 79 cases. The streptococcal infections were always more serious. The virulence was constantly high, and the seasonal peaks for the year were May and December.

Association with Venereal Infections. — Gonorrhœa (gonococcus isolated), 3; syphilis (positive Wassermann), 3. Venereal disease was not an appreciable factor, but Wassermann tests were done only in patients giving a suspicious history.

Number of Patients delivered in Maternity Hospitals or Homes—14 = 6·3 per cent. This figure is of interest. Some of the cases had returned home after a normal short puerperium and developed late puerperal infections, but the majority came direct to hospital.

Residual Lesions or Sequelæ on Discharge of Patients.—

A.—Requiring gynæcological operative measures, 31.

(Includes pyosalpinx, cystocele, rectocele, perineal tears, retroflexion of uterus, prolapse.)

B.—Impaired general health and utility, 25.

(Includes anæmia, parametritis, thickened limbs from phlegmasia.)

The above represent gross morbidity figures, but no cognizance is taken of minor sequelæ, which might be included as residual lesions, viz., perineal tears, subinvolution, &c.

Cause of Death.—The total number of deaths was 39, or 17·6 per cent. This rate is practically the same as for the two previous years.

Septicæmia and peritonitis are still the problems to overcome. The following classification shows the actual causes:—

Anæmia.	Septicæmia.	Pyæmia.	Peritonitis.	Pneumonia.	Embolism.
2	17	4	11	2	3

TREATMENT.

A—*Serum Treatment.*—68 cases were treated with serum. Of these, 53 had antistreptococcal scarlet serum, and 15 puerperal (streptococcal) antitoxin. This year an extended use of antistreptococcal serum (scarlet fever type) was made with encouraging results. Its prophylactic value after digital manipulation in the uterus was definitely established. Rarely did a febrile reaction follow interference, *e.g.*, in incomplete abortion—if serum was administered.

B—*Treatment by Arsenical Preparations.* — This treatment (as recommended by the Medical Research Council, S.R.S., No. 119, 1928) was only used to a limited extent. 7 cases received intravenous arsenical preparations. A more extended trial is desirable before commenting on results.

C—*Curettage and Douching.*—Instrumental curettage and intrauterine douching were entirely abandoned on account of the tendency to dissemination of infection and resulting septicæmia.

Ante-Natal Disease.—Complaints by patients of minor disorders, viz., swelling of feet, vomiting, anæmia, &c., during the pregnancy were frequently elicited, and, no doubt, were important factors of fœtal death and consequent maternal infection.

ASSOCIATION WITH OTHER INFECTIONS.

A.—*Scarlet fever and Puerperal Sepsis.*—One patient, who was a definite contact with scarlet fever, contracted the double infection. Streptococci were obtained from the uterus.

B.—*Puerperal Fever and Erysipelas.*—In one case puerperal sepsis was associated with a localised erysipelatous lesion of the genitalia, which later became of wandering type.

Preventive Measures.—The above review of the data of the year's work suggests the following preventive measures:—

(1) Careful ante-natal attention to all pregnant women.

(2) Medical attention to every case of abortion.

(3) The reduction of instrumental interference to a minimum, and the avoidance of perineal tears, &c.

(4) More careful conduct of the third stage of labour.

(5) Care and cleanliness of the mother during the puerperium.

(6) Complete restoration of functional efficiency after the puerperium.

THOMAS ARCHIBALD,
Physician-Superintendent.

23rd March, 1928.

BELVIDERE HOSPITAL—STATEMENT OF CASES TREATED ACCORDING TO SEX.

DATA BASED ON DISMISSALS AND DEATHS FOR YEAR 1927.

Disease.	In Hosp. 1st Jan.		Admitted.		Died.		Dismissed.		Remaining in Hospital, 31st Dec.		Mortality per cent.		Average Residence (Days)			
													Dismissals		Deaths.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Typhus,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric,	...	4	26	13	3	1	21	15	2	1	12·5	6·3	58	54	8	2
Continued and Undefined,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal,	...	27	...	221	...	40	...	180	...	28	...	18·2	...	42	...	10
Smallpox,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever,	143	167	783	956	10	7	826	1,022	90	94	1·2	·7	45	43	19	9
Diphtheria and Memb. Croup,	69	70	557	718	18	24	529	678	79	86	3·3	3·4	39	38	13	10
Erysipelas,	...	...	1	...	...	...	1	...	...	...	...	...	49	...	...	...
Cholera,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebro-spinal Fever,	2	...	16	8	12	5	3	2	3	1	80·0	71·4	52	111	26	8
Ophthalmia Neonatorum,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trachoma,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Encephalitis Lethargica,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Polioencephalitis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Poliomyelitis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Primary Pneumonia,	97	93	735	478	179	107	580	427	73	37	23·6	20·0	39	37	11	12
Acute Influenzal-Pneumonia,	5	2	46	33	16	6	35	28	...	1	31·4	17·6	34	31	8	6
Malaria,	...	...	4	...	...	...	4	...	...	...	...	...	24	...	...	...
Dysentery,	...	...	5	1	...	...	5	1	...	...	...	...	18	59	...	...
Relapsing Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trench Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pulmonary Tuberculosis,	...	...	4	2	1	...	3	2	...	...	25·0	...	8	27	25	...
Other forms of Tuberculosis,	...	2	18	16	18	17	...	1	...	...	100·0	94·4	...	74	7	17
Measles,	...	...	102	86	20	14	72	62	10	10	21·7	18·4	36	34	9	12
German Measles,	...	...	6	8	...	...	6	8	...	...	...	...	10	12	...	...
Whooping-Cough,	21	12	210	237	59	60	158	167	14	22	27·2	26·4	54	60	11	14
Chickenpox,	13	11	97	88	1	1	96	90	13	8	1·0	1·1	47	43	1	19
Other Affections, *e.g.*, Mumps, Vincent's Angina,	17	9	247	207	36	31	209	168	19	17	14·7	15·6	23	24	13	11
Venereal Diseases,	10	...	138	...	...	...	130	...	18	...	...	...	37	...	...	...
Total,	377	397	2,995	3,072	373	313	2,678	2,851	321	305	12·2	9·9	41	40	12	12

BELVIDERE HOSPITAL.—Statement showing Age and Sex Distribution of Cases Dismissed, and Deaths during the Year 1927.

	Age	Typhus.	Enteric.	Puerperal	Ophthalmia Neonatorum	Scarlet Fever.	Diph. and Mem. Croup.	Erysipelas.	Cerebro-spinal Fever.	Malaria.	Acute Polio-encephalitis.	Acute Primary Pneumonia.	Acute Influenzal-Pneumonia.	Venereal Diseases.	Dysentery.	Pulmonary Tuberculosis.	Other forms of Tuberculosis.	Measles.	German Measles.	Whooping-Cough.	Chickenpox.	Other Affections.	Total
Cases (including Deaths).																							
Male.	– 1	...	..	...	...	1	24	...	8	...	...	147	3	..	...	1	1	13	...	66	9	58	331
	– 2	...	...	...	...	24	48	...	3	...	...	126	3	...	...	...	2	25	1	54	14	36	336
	– 3	...	...	...	...	55	49	...	...	...	...	57	1	...	...	...	6	14	...	35	17	17	251
	– 4	...	1	...	.	58	52	...	...	...	..	42	3	...	...	...	...	9	...	23	8	8	204
	– 5	...	...	...	...	71	59	...	...	...	...	28	1	...	...	...	4	10	1	12	9	9	204
	– 10	..	1	...	...	357	202	...	2	...	..	89	3	...	...	...	1	21	4	27	33	29	769
	– 15	...	4	...	...	149	46	...	1	...	...	51	4	...	...	...	1	...	...	...	5	14	275
	– 25	...	1	...	...	88	40	...	1	...	...	84	7	31	1	1	2	...	...	...	1	25	282
	– 35	...	8	...	...	21	17	..	...	3	...	40	7	39	3	2	1	...	...	...	1	20	162
	– 45	...	3	...	...	8	6	...	...	...	...	41	7	29	1	...	...	...	...	...	...	19	114
	45 +	...	6	...	...	4	4	1	...	1	...	54	12	31	...	...	...	...	...	...	...	10	123
	Total,	...	24	...	...	836	547	1	15	4	...	759	51	130	5	4	18	92	6	217	97	245	3,051
Female.	– 1	...	...	...	...	4	15	...	1	...	...	117	...	...	...	...	1	10	...	57	10	38	253
	– 2	...	...	...	...	22	35	...	3	...	...	116	1	...	...	...	2	15	...	60	10	27	291
	– 3	...	1	...	...	58	33	...	1	...	...	55	1	...	...	...	4	16	2	37	13	10	231
	– 4	...	..	...	...	66	48	...	1	...	...	39	1	...	...	...	1	5	...	31	11	6	209
	– 5	...	1	...	...	63	48	...	...	...	...	28	...	...	...	...	...	14	...	16	9	10	189
	– 10	...	3	...	...	416	251	...	...	...	..	52	7	...	...	...	4	14	4	26	31	22	830
	– 15	...	2	...	...	244	84	...	...	...	...	27	5	...	...	...	2	...	...	...	5	10	379
	– 25	..	4	52	...	118	109	...	1	...	...	30	6	...	...	...	3	2	2	...	2	29	358
	– 35	...	2	124	...	26	45	...	...	...	...	16	5	...	...	2	1	...	...	...	...	26	247
	– 45	...	1	43	...	8	20	...	...	...	...	18	1	...	...	..	...	...	...	...	...	13	104
	45 +	...	2	1	...	4	14	...	...	...	...	36	7	...	1	...	...	...	...	...	...	8	73
	Total,	...	16	220	...	1,029	702	...	7	...	...	534	34	...	1	2	18	76	8	227	91	199	3.164
Deaths.																							
Male.	– 1	...	...	..	...	...	3	...	7	...	...	55	2	...	...	1	1	3	...	35	1	19	127
	– 2	...	..	.	...	3	4	...	3	...	...	34	...	...	...	...	2	9	...	15	...	4	74
	– 3	...	...	...	...	1	2	...	...	...	...	4	...	...	...	...	6	4	...	4	...	...	21
	– 4	...	...	...	...	1	1	...	...	...	..	5	...	...	...	...	...	3	...	4	...	...	14
	– 5	...	...	...	...	...	2	...	...	...	...	5	...	...	...	...	4	...	...	1	...	...	12
	– 10	...	...	...	...	4	4	...	2	...	...	3	...	..	...	...	1	1	...	...	...	2	17
	– 15	...	...	...	...	1	1	...	...	...	...	2	1	...	...	...	1	...	...	...	...	...	6
	– 25	...	...	...	...	...	1	...	...	...	...	14	...	...	...	...	2	...	...	...	...	1	18
	– 35	...	2	..	...	...	...	...	...	...	...	12	2	...	...	...	1	...	...	...	...	2	19
	– 45	...	...	...	...	...	...	...	...	...	...	20	4	...	...	...	...	...	...	...	...	5	29
	45 +	...	1	...	...	...	...	...	...	...	...	25	7	...	...	...	...	...	...	...	...	3	36
	Total,	...	3	...	...	10	18	...	12	...	...	179	16	...	...	1	18	20	...	59	1	36	373
Female.	– 1	...	...	...	...	...	1	...	1	...	...	34	...	...	..	...	1	3	..	29	1	11	81
	– 2	..	...	...	...	1	5	...	1	...	...	29	...	...	...	...	2	7	...	14	...	7	66
	– 3	...	.	...	...	2	1	...	1	...	...	9	...	...	...	...	4	1	...	5	...	...	23
	– 4	...	..	...	...	...	2	...	1	...	...	4	...	...	...	...	1	...	...	8	...	...	16
	– 5	...	...	...	...	1	2	...	...	...	...	2	...	...	...	...	...	3	...	...	...	1	9
	– 10	...	...	...	...	1	10	...	...	...	...	2	...	...	...	..	4	...	...	4	...	1	22
	– 15	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	2	...	...	...	...	3	7
	– 25	...	1	7	...	...	2	...	1	...	...	3	1	...	...	...	2	...	...	...	...	3	20
	– 35	...	...	21	...	1	..	...	...	...	...	3	1	...	..	...	1	...	..	...	...	1	28
	– 45	...	...	12	...	...	...	...	.	...	...	4	1	...	...	...	...	...	...	...	...	2	19
	45 +	...	...	...	...	1	1	...	...	...	...	16	2	...	...	...	...	...	...	...	...	2	22
	Total,	...	1	40	...	7	24	...	5	...	...	107	6	...	...	...	17	14	...	60	1	31	313

BELVIDERE HOSPITAL.—Table showing Alterations in Diagnosis of Cases Dismissed and Deaths during 1927.

Diagnosis Altered to	Typhus Fever	Enteric Fever	Continued and Undefined Fever	Puerperal Fever	Scarlet Fever	Scarlet Fever and Other Diseases	Diphtheria	Diphtheria and Other Diseases	Cerebro-spinal Fever	Poliomyelitis	Pneumonia	Dysentery	Measles	Measles and Other Diseases	Roseola	Whooping-Cough	Whooping-Cough and Other Diseases.	Chickenpox	Malaria	Tuberculosis
	ORIGINALLY CERTIFIED AS																			
Typhus Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
Enteric Fever,	...	...	1	...	...	...	...	...	1	...	3	...	...	...	...	...	...	...	...	...
Continued and Undefined Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever and Other Diseases,	...	...	...	...	...	...	...	...	...	...	3	...	...	..	...	...	...	...	...	...
Scarlet Fever,	...	...	...	...	...	3	6	...	...	...	...	...	3	..	...	...	...	...	...	..
Scarlet Fever and Other Diseases,	...	...	...	...	27	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
Diphtheria,	...	...	...	...	4	1	...	1	...	...	2	...	...	...	...	...	...	...	...	...
Diphtheria and Other Diseases,	...	...	...	...	...	...	14	...	...	...	4	...	...	...	...	...	...	...	...	...
Cerebro-spinal Fever,	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...
Encephalitis Lethargica,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...
Malaria,	...	4	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pneumonia,	...	3	3	1	16	2	5	...	3	...	...	...	...	...	...	...	3	...	...	...
Pneumonia and Other Diseases,	...	...	...	...	...	...	...	...	11	...	38	...	...	...	...	...	...	...	...	...
Erysipelas,	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis (All Forms),	...	2	...	1	...	...	1	2	24	...	7	...	...	...	...	1	...	...	...	...
Measles,	...	...	...	...	8	...	5	...	...	...	3	...	...	1	...	1	1	...	...	...
Measles and Other Diseases.	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...
Roseola,	...	...	...	...	10	1	...	...	...	...	...	...	2	...	...	..	...	...	...	...
Whooping-Cough,	...	...	...	...	...	...	1	...	2	...	5	...	...	...	...	...	1	...	...	...
Whooping-Cough and Other Diseases,	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	2	..	...	...	...
Chickenpox and Other Diseases,	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	6	...	...
Influenza,	...	1	...	...	2	...	2	1	...	...	20	...	...	...	...	...	...	...	...	...
Other Diseases of the Nervous System,	...	...	...	...	...	...	1	...	4	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of the Respiratory System,	...	1	...	1	8	...	4	...	4	...	76	...	1	...	...	4	...	...	...	...
Diseases of the Circulatory System,	...	2	...	2	...	...	...	...	1	...	4	...	..	...	...	...	...	...	...	...
Diseases of the Digestive System,	...	8	1	...	4	...	8	...	14	...	41	...	1	...	...	1	2	1	...	...
Other Accidents and Diseases of Pregnancy and Parturition,	...	...	...	17	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
Diseases of the Skin and of the Cellular Tissue,	...	...	...	...	20	2	1	...	...	...	...	...	3	...	...	...	...	7	...	...
No apparent Disease,	...	...	...	...	8	...	...	...	1	...	10	1	...	...	...	...	1	...	...	...
All Other Diseases,	...	2	2	6	33	...	30	1	11	...	12	...	1	...	...	1	1	...	...	...

RUCHILL FEVER AND TUBERCULOSIS HOSPITAL.

During the year ending December 31st, 1927, the total number of cases treated to a conclusion in the hospital was somewhat below that of the previous year. This fall is accounted for by a very considerable drop in the number of scarlet fever patients treated. The mortality rate is slightly increased, being 10·3 per cent., as compared with 9·3 per cent. This rise is due largely to an increase in the number of deaths from whooping-cough, which is accounted for by the greatly increased number of cases treated over last year's figure, and also to a rise in the mortality of measles.

Enteric fever shows a still further decline, there being only 21 cases treated, as compared with 32 in 1926. During the autumn a large number of cases of paratyphoid B infection were admitted which brought the total number for this disease to the unprecedented number of 59. These included patients affected in an epidemic in the northern districts of the City which is dealt with elsewhere in the Report. There were two deaths among the cases treated, but in both instances the actual cause of death could be assigned to accompanying complications. and the great majority of the patients were only mildly ill.

The number of scarlet fever patients treated was 1,218, about 300 less than last year. The type of the disease was on the whole milder, as shown by the slight drop in the mortality rate (1·5 per cent., as compared with 2·1 per cent.). The serum treatment of this disease has again been made use of with continued satisfactory results.

The figure for diphtheria shows a further increase, 991 cases being treated this year against 783 last year. The mortality rate, however, shows a very substantial decrease, being 3·4 per cent. this year, as compared with 5·6 per cent. last year. The cases were mainly mild in character, but the drop in the mortality rate is largely due to the admission, in much greater numbers than usual, of patients who had positive cultures only without any active lesion.

The immunisation of the nursing staff against diphtheria has been continued with satisfactory results.

In erysipelas the number of cases is somewhat less (402 as against 504). The mortality rate also is lower, being 6·9 per cent., compared with 8·1 last year. Some use has been made of a new serum in treating this disease, but the results obtained in a small series of cases were so varied that any definite opinion as to its efficacy could not be expressed.

The number of cases of cerebro-spinal fever (36), though larger than last year, was made up of sporadic cases and mainly represented by infants. The mortality rate continued to be very high.

Encephalitis lethargica shows an increase in numbers, but very few were fresh cases, the majority being of a chronic type where the illness dated back for a considerable time.

In acute primary pneumonia an increase in numbers is shown, there being 1,211 cases, as compared with 1,072. The admissions of this disease remain over 20 per cent. of the total admissions to the hospital. The mortality rate is slightly lower than last year. The great majority of deaths occurred in patients under 2 years and over 45 years of age. The cases did not present any feature of special interest except that the complication of empyema was more frequent than usual. Several very satisfactory results were obtained in treating this condition by repeated aspiration without incision and free drainage. Cases of pneumonia definitely associated with influenza were few.

In patients suffering from tubercular disease, other than that affecting the lungs, admitted to the Fever Wards, the mortality rate is very high. This is explained by the fact that they include a very high proportion of cases of tubercular meningitis which have been notified as some other disease, such as cerebro-spinal fever or encephalitis lethargica.

In the autumn measles became epidemic in the City, and a large number of patients was admitted towards the latter end of the year, there still being 122 patients under treatment at the date of this Report. The percentage mortality figure for this disease is very much higher than last year (15·2 against 8·2). This is explained by the fact that during big epidemic periods the cases sent to hospital are more definitely selected from the point of view of severity and the presence of pulmonary complications, with the result that the hospital cases are much more severe in type.

As is usual during epidemic periods, measles was a very troublesome source of cross-infection in the hospital and many wards, notably pneumonia and diphtheria, suffered in this way. Great benefit was found, however, in the extended facilities for observation accommodation in Ward 35, and many cross-infections were avoided by its use. Convalescent patients' serum was again made use of for protective inoculation of contacts in the crossed wards, but the results have not been so uniformly successful as on former occasions. Complete success was attained in a few instances, but in others many of the inoculated contacts developed the disease. In all of the latter cases, however, the disease occurred in a very mild form, most of the patients being quite convalescent within four days at the most from the onset. Some use was also made of some anti-measles serum, supplied for experimental purposes by one of the drug firms. It was used prophylactically with apparent success, and also used therapeutically in cases in the very early stage of the disease. Here again there seemed to be some modification of the symptoms, but the number of cases treated was too small for any definite conclusions to be drawn.

The number of cases of whooping-cough dealt with shows a considerable increase (203, as compared with 40). The mortality rate also is increased which, as mentioned in connection with measles, is accounted for by the type of case being sent to hospital.

The Visiting Aural Surgeon's services have been made use of again to a considerable extent. Consultations and examinations to the number of 554 have been made, this number being made up of 256 new cases and 298 old cases. As before, the great majority of the patients were suffering from middle ear disease, following one or other of the infectious diseases, but other conditions such as acute mastoiditis, enlarged tonsils and adenoids, septic tonsils, quinsy, rhinitis, sinusitis, antral disease and cervical adenitis were dealt with.

Operations to the number of 178 were performed, and of these 148 were for the removal of tonsils and adenoids. This operation has been found as before, very beneficial in treating chronic discharges from ears and noses, the period during which the discharges persisted being greatly diminished in the majority of cases. A large number of patients who had persistent positive cultures following diphtheria. also had tonsils and adenoids removed and in a very high proportion of cases the cultures had become negative by the time the surfaces had healed.

Mastoidectomy was performed on 10 patients, all of whom recovered satisfactorily, with one exception, who subsequently developed intra-cranial thrombosis and died.

Other operations included lavage of antra, paracentesis of tympanic membrane—removal of foreign body from ear, incision of quinsies, incision of retro-pharyngeal abscess, &c.

Dr. W. A. Horne, Tuberculosis Officer, presents the following statement referring to the work of the tuberculosis section of the hospital :—
"During the year the accommodation has been taxed to its utmost as in previous years, and the increasing number of female patients awaiting admission has necessitated the gradual substitution of beds for cots, thereby reducing the number of children under treatment in the wards. The types of pulmonary tuberculosis are again the same, the acutely ill young adult suffering from broncho-pneumonic tuberculosis and the chronic advanced phthisis, in both of which the prognosis is not good. This is in keeping with the purpose of the wards in contradistinction to the usefulness of a sanatorium proper. It is therefore no wonder that about one-third of the dismissals during the year have been due to deaths—the reverse to the glowing reports of others who deal largely with ambulant patients after they have had a preparatory period of treatment in these wards or who have been found to suffer from a slight lesion. As regards chronic phthisis the female patients admitted were always more ill than the males of the corresponding type and age, probably because they hold off until the very last and often are past hope of permanent or even partial recovery. There were various reasons for patients going home of their own accord, with men, the necessity of keeping the household intact, with women, the worry about their children, their homes, or their husbands, and with some merely ennui. The younger the patient the more often was it lack of patience with the prolonged rest absolutely necessary in the treatment of the disease,

"The possibility of treatment by pneumo-thorax was extensively explored, but only a few patients were found suitable. The main contra-indications or cause of failure were double lung infections where the better lung showed the disease spreading out from the root, and extensive adhesions between parietal and visceral pleura preventing complete collapse. Where the operation was successful the results were very promising. Under other forms of tuberculosis are included tabes mesenterica and acute miliary tuberculosis. Ultra-violet radiation has been used extensively in the treatment of the former condition with a fair measure of success. In many of the patients suffering from the latter condition the terminal phase was tuberculous meningitis.

"Recreation of the patients has been encouraged as far as is consistent with their individual physical requirements and from time to time they have been entertained by concert parties whose services have been highly appreciated."

W. M. ELLIOTT,
Physician-Superintendent.

April, 1928.

RUCHILL HOSPITAL—STATEMENT OF CASES TREATED ACCORDING TO SEX.

DATA BASED ON DISMISSALS AND DEATHS FOR YEAR 1927.

Disease.	In Hosp. 1st Jan.		Admitted.		Died.		Dismissed.		Remaining in Hospital at 31st Dec.		Mortality per cent.		Av. Residence (Days).			
													Dismissals.		Deaths.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Paratyphoid B.,	...	1	36	22	2	...	34	23	...	...	5·6	...	47	49	15	...
Typhus,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric,	6	1	10	7	2	1	12	6	2	1	14·3	14·3	89	61	4	4
Continued and Undefined,	1	...	1	...	...	...	2	...	...	...	...	...	92	...	...	...
Puerperal,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever,	118	133	465	630	11	7	517	683	55	73	2·1	1·0	51	50	22	10
Diphtheria and Memb. Croup,	60	65	470	608	15	19	414	546	101	108	3·5	3·4	53	49	4	8
Erysipelas,	18	14	200	229	17	12	185	208	16	23	8·4	5·5	23	25	11	10
Cholera,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebro-spinal Fever,	...	...	21	16	17	14	4	1	...	1	80·9	93·3	69	46	12	7
Ophthalmia Neonatorum,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trachoma,	...	4	17	20	...	...	17	24	...	...	...	...	26	59	...	...
Lethargica Encephalitis,	3	3	11	10	2	2	8	11	4	...	20·0	15·4	88	33	2	17
Acute Polioencephalitis,	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	66
Acute Poliomyelitis,	1	...	3	2	...	...	1	...	3	2	...	...	69	...	...	...
Acute Primary Pneumonia,	80	37	732	446	155	85	604	367	53	31	20·4	18·8	36	33	11	9
Acute Influenzal-Pneumonia,	...	...	20	6	3	...	17	6	...	...	15·0	...	27	41	8	...
Malaria,	2	...	3	1	...	...	5	1	...	...	...	...	18	20	...	...
Dysentery,	...	...	5	2	...	...	3	1	2	1	...	...	42	34	...	...
Relapsing Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trench Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pulmonary Tuberculosis,	...	1	9	14	1	2	8	11	...	2	11·1	15·4	39	35	58	9
Other Forms of Tuberculosis,	...	...	21	18	20	15	1	3	...	...	95·2	83·3	72	49	13	11
Measles,	1	1	235	221	26	25	152	133	58	64	14·6	15·8	20	18	9	13
German Measles.	...	...	8	24	...	...	8	24	...	...	...	...	24	17	...	...
Whooping-Cough,	3	1	102	120	21	26	78	78	6	17	21·2	25·0	50	41	13	21
Chickenpox,	1	1	9	2	...	...	10	3	...	...	...	...	37	61	...	...
Other Affections,	34	31	339	308	34	24	316	299	23	16	9·7	7·4	23	25	13	20
Total,	328	294	2,717	2,706	326	233	2,396	2,428	323	339	12·0	8·7	31	40	11	11

RUCHILL HOSPITAL.—Statement showing Age and Sex Distribution of Cases Dismissed, and Deaths during the Year 1927.

	Age.	Paratyphoid B.	Continued and Undefined Fever.	Enteric.	Trachoma.	Smallpox.	Scarlet Fever	Diph. and Memb Croup.	Erysipelas.	Cerebro-spinal Fever.	Lethargica Encephalitis.	Acute Poliomyelitis.	Acute Primary Pneumonia.	Acute Influenzal-Pneumonia.	Malaria.	Dysentery.	Pulmonary Tuberculosis.	Other Forms of Tuberculosis.	Measles.	German Measles.	Whooping-Cough.	Chickenpox.	Other Affections.	Acute Polioencephalitis.	Total.
ases (including Deaths).																									
Male.	– 1	...	...	...	...	...	3	7	8	8	...	1	93	...	...	...	...	...	25	...	24	2	65	...	236
	– 2	2	...	...	...	...	12	25	3	5	...	...	116	...	...	...	1	2	35	2	29	...	43	...	275
	– 3	2	...	...	...	...	27	38	1	2	...	...	48	...	...	1	...	1	40	2	17	2	28	...	209
	– 4	1	...	1	...	...	47	40	2	...	1	...	39	...	...	...	...	4	10	2	10	1	18	...	176
	– 5	1	...	...	...	...	48	37	1	1	1	...	25	...	...	1	...	1	25	...	9	...	17	...	167
	– 10	3	...	1	...	...	219	162	10	2	1	...	101	...	...	...	...	3	35	2	9	5	40	...	593
	– 15	7	...	2	2	...	95	57	6	2	1	...	40	1	...	...	1	4	...	...	1	...	21	...	240
	– 25	6	1	4	4	..	56	39	19	1	3	...	104	5	2	...	3	2	4	...	...	...	36	...	289
	– 35	9	...	1	7	...	10	15	20	...	2	...	53	6	2	...	2	4	3	...	...	...	19	...	153
	– 45	1	...	1	2	...	9	5	43	...	...	...	56	3	...	1	2	...	1	...	...	...	18	...	142
	45 +	4	1	4	2	...	2	4	89	...	1	...	84	5	1	...	...	...	...	...	...	...	45	...	242
	Total,	36	2	14	17	...	528	429	202	21	10	1	759	20	5	3	9	21	178	8	99	10	350	...	2,722
Female.	– 1	...	...	...	...	...	4	6	6	4	...	...	58	...	...	...	...	4	21	1	30	1	53	...	188
	– 2	1	...	...	...	...	10	26	2	2	...	...	82	...	...	...	...	1	31	3	31	1	54	...	244
	– 3	...	...	...	...	...	26	34	1	1	...	...	51	...	...	...	...	2	25	3	13	...	23	...	179
	– 4	...	...	1	...	...	34	32	...	2	1	...	35	...	...	...	...	...	12	2	18	...	15	...	152
	– 5	1	...	...	...	...	36	48	1	1	...	...	12	...	...	...	...	...	15	2	3	...	14	...	133
	– 10	5	...	...	3	...	276	179	4	...	...	...	63	1	...	...	...	2	29	1	9	1	37	...	610
	– 15	5	...	...	4	...	141	78	5	3	1	...	32	...	...	...	2	4	1	3	...	...	19	...	298
	– 25	6	...	2	13	..	118	102	38	1	6	...	33	1	...	...	7	3	15	6	...	...	51	...	402
	– 35	5	...	3	...	...	34	38	30	1	2	...	33	1	1	...	2	1	7	3	...	...	21	...	182
	– 45	...	...	1	2	...	9	15	33	...	2	...	21	1	...	1	1	1	1	...	...	...	14	1	103
	45 +	...	...	...	2	...	2	7	100	...	1	...	32	2	...	...	1	...	1	...	...	...	22	..	170
	Total,	23	...	7	24	...	690	565	220	15	13	...	452	6	1	1	13	18	158	24	104	3	323	1	2,661
Deaths.																									
Male.	– 1	1	...	..	...	...	...	2	2	6	...	...	34	...	...	...	...	...	9	...	9	...	9	...	72
	– 2	...	...	...	...	...	...	2	...	4	...	...	29	...	...	...	1	2	6	...	9	...	5	...	58
	– 3	...	...	...	...	...	4	2	...	2	...	...	7	...	...	...	...	1	8	...	2	...	...	...	26
	– 4	...	...	...	...	...	1	3	1	...	...	...	6	...	...	...	...	4	1	...	1	...	1	...	18
	– 5	...	...	...	...	...	...	2	...	1	...	...	2	...	...	...	...	1	1	...	...	...	1	...	8
	– 10	...	...	...	...	...	3	4	...	2	...	...	...	...	...	.	...	3	...	...	...	...	2	...	14
	– 15	...	...	...	...	...	...	...	...	1	...	...	2	...	...	...	...	4	...	...	...	...	...	...	7
	– 25	...	...	1	...	...	2	...	1	1	...	...	6	...	...	...	...	2	1	...	...	...	2	...	16
	– 35	...	...	...	...	...	...	...	...	...	1	...	7	1	...	...	...	3	...	...	...	...	1	...	13
	– 45	...	...	...	...	...	1	...	2	...	...	...	16	1	...	...	...	...	...	...	...	...	1	...	21
	45 +	1	..	1	...	...	...	...	11	...	1	...	46	1	...	...	...	...	...	...	...	...	12	...	73
	Total,	2	...	2	...	...	11	15	17	17	2	...	155	3	...	...	1	20	26	...	21	...	34	...	326
Female.	– 1	...	...	...	...	...	1	3	1	4	...	...	16	...	...	...	...	3	6	...	12	...	5	...	51
	– 2	...	...	...	...	...	2	3	...	2	...	...	27	...	...	...	...	1	9	...	10	...	3	...	57
	– 3	...	...	...	...	...	2	7	...	1	...	...	9	...	...	...	...	2	7	...	2	...	1	...	31
	– 4	...	...	...	...	...	...	1	...	2	1	...	6	...	...	...	...	...	2	...	2	...	...	...	14
	– 5	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	1	...	...	...	1	...	4
	– 10	...	...	...	...	...	...	3	...	...	...	...	1	...	...	...	...	2	...	...	...	...	1	...	7
	– 15	...	...	...	...	...	...	1	...	2	...	...	...	...	...	...	...	3	...	...	...	...	...	...	6
	– 25	...	...	...	...	...	1	...	...	1	...	...	3	.	..	...	1	2	...	...	...	...	5	...	13
	– 35	...	...	...	...	...	...	...	1	1	...	...	3	...	...	...	...	1	...	...	...	...	3	...	9
	– 45	...	...	1	...	...	1	...	1	...	1	...	6	...	...	...	...	1	...	...	...	...	3	1	15
	45 +	...	...	...	...	...	...	...	9	...	...	...	14	...	...	...	1	...	...	...	...	...	2	...	26
	Total,	...	...	1	...	...	7	19	12	14	2	...	85	...	...	...	2	15	25	...	26	...	24	1	23

RUCHILL HOSPITAL.—Table showing Alterations in Diagnosis of Cases Dismissed and Deaths during 1927.

Diagnosis Altered to	Originally Certified as														
	Enteric Fever	Continued and Undefined Fever	Scarlet Fever	Diphtheria	Erysipelas	Cerebro-spinal Fever	Lethargica Encephalitis	Acute Primary Pneumonia	Acute Influenzal-Pneumonia	Dysentery	Measles	Roseola	Whooping-Cough	Other Affections	Paratyphoid
Enteric Fever,	...	2	...	...	...	...	...	2	...	...	...	...	...	1	...
Paratyphoid Fever,	16	...	1	...	...	...	...	2	1	...	...	...	...	1	...
Puerperal Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever,	...	...	...	10	...	...	...	1	...	...	5	1	...	1	...
Diphtheria,	...	...	5	...	...	...	...	2	...	...	...	...	...	...	...
Cerebro-spinal Fever,	...	...	...	...	...	...	...	4	...	...	...	1	...	...	...
Lethargica Encephalitis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Primary Pneumonia,	4	...	3	7	2	7	1	...	39	...	1	...	2	1	...
Tuberculosis (all forms),	4	3	...	...	...	17	7	26	1	...	...	...	...	3	...
Measles,	...	...	10	4	...	...	...	9	...	...	...	...	...	...	...
Roseola,	...	...	7	...	...	...	...	...	...	...	9	...	...	...	...
Whooping-Cough,	...	...	2	4	...	...	...	10	...	...	1	...	...	1	...
Chickenpox,	...	...	3	...	1	...	...	1	...	...	...	...	...	...	...
Influenza and Influenza associated with other Diseases,	2	2	2	...	...	1	1	13	...	...	1	...	...	...	...
Other Diseases of the Nervous System,	...	...	...	...	2	9	9	5	...	...	...	...	...	...	...
Other Diseases of the Respiratory System,	2	...	...	14	2	1	...	200	4	...	2	...	1	..	...
Diseases of the Circulatory System,	1	...	1	...	...	...	1	2	1	...	...	...	...	...	...
Diseases of the Digestive System,	4	...	26	70	1	9	1	63	3	11	1	...	...	1	3
Diseases of the Skin and of the Cellular Tissue,	1	...	20	1	72	2	1	3	...	...	3	3	...	1	...
No Apparent Disease,	2	...	2	...	...	1	...	12	...	...	...	...	3	1	...
All other Diseases,	5	...	1	4	8	2	3	20	3	...	1	...	1	2	...
Erysipelas,	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...

RUCHILL HOSPITAL.—TUBERCULOSIS, TABLE SHOWING CASES DISMISSED AND DEATHS DURING THE YEAR 1927, AND THE AVERAGE RESIDENCE.

Disease.	Number of Cases Dismissed.	Number of Deaths.	Average Residence.							Average days.
			−30	−50	−100	−150 Days.	−200	−300	+300	
Pulmonary Tuberculosis—										
Early, - - - -	44	2	5	5	12	12	4	3	5	145
Intermediate, - - -	130	9	11	19	45	23	23	15	3	118
Advanced. - - -	182	177	86	37	82	44	36	32	42	133
Doubtful Cases, - -	16	...	3	2	...	6	2	2	1	127
Diagnosis not Confirmed, -	9	...	1	1	4	1	...	2	...	112
Other Forms of Tuberculosis—										
Glands, - - - -	5	...	...	...	...	1	...	1	3	324
Spine, - - - -	...	...	...	...	...	...	...	...	...	...
Bones other than Spine, -	...	...	...	...	...	...	...	...	...	...
Hip Joint, - - - -	...	...	...	...	...	...	...	...	...	...
Joints other than Hip, -	...	...	...	...	...	...	...	...	...	...
Abdomen, - - - -	27	2	1	2	2	4	3	4	13	297
Multiple, - - - -	1	11	6	3	1	...	1	...	1	67
Genito-Urinary, - -	1	...	...	...	...	...	...	...	1	306
Miscellaneous, - - -	39	12	10	2	14	12	5	5	3	119
Diagnosis not confirmed, -	5	...	...	1	1	...	...	1	2	338
Total, - - -	459	213	123	72	161	103	74	65	74	135

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RUCHILL HOSPITAL.—Pulmonary Tuberculosis.—Showing Stage of Disease, Age, Result of Treatment, &c., of Patients Dismissed during 1927.

Ages.	Not Classified Further.				Result of Treatment.										Complications.				Condition on or Reason for Dismissal.										Result of Sputum Examination.																	
	Less than 4 Weeks' Residence.		Deaths Among these.		Much Improved.		Improved.		Not Improved.		Died.		Total.		Tubercular.		Other.		Fit for Work or School.		Unfit.		Left Own Accord or Removed by Parents.		Other Reasons.		Transferred to Other Institutions.		+ Admitted. + Dismissed.		+ Admitted. - Dismissed.		- Admitted. + Dismissed.		- Admitted. - Dismissed.		No Sputum.		+ Admitted.	N. S. Dismissed.	N. S. Admitted.	+ Dismissed.	- Admitted.	N.S. Dismissed.	N.S. Admitted.	- Dismissed.
Early Cases—	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
– 5,	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
– 10,	1	...	...	...	4	2	...	...	...	...	...	...	4	2	2	...	...	...	3	1	...	...	1	...	...	1	...	...	...	...	...	...	...	...	1	...	3	2	...	...	...	...	...	...	...	...
– 15,	...	...	...	...	1	1	1	1	1	...	...	...	3	2	...	...	1	...	1	1	...	...	1	1	1	...	...	...	...	...	...	...	...	...	...	1	3	1	...	...	...	...	...	...	...	...
– 25,	...	1	...	1	3	1	4	4	...	...	...	...	7	5	...	1	...	1	3	1	...	...	3	3	...	...	1	1	2	1	...	...	...	...	4	2	1	1	...	...	...	...	...	1	...	...
– 35,	1	...	1	...	1	1	4	2	2	...	...	...	7	3	1	...	...	...	4	1	...	...	2	2	...	...	1	...	4	...	...	...	...	...	3	1	...	2	...	...	...	...	...	...	...	...
– 45,	...	2	...	...	1	2	1	1	1	...	...	...	3	3	...	1	1	...	1	2	...	...	2	1	...	...	...	...	2	2	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...
45 +,	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Total,	2	3	1	1	11	8	10	8	4	...	...	...	25	16	3	2	2	1	13	7	...	...	9	7	1	1	2	1	8	3	...	...	1	...	9	5	7	6	...	1	...	...	...	1	...	...
Intermediate Cases—																																														
– 5,	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
– 10,	...	...	...	...	1	...	...	...	...	...	...	...	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
– 15,	2	...	1	...	1	1	...	1	...	1	...	...	1	3	...	...	...	...	1	...	...	...	...	1	...	1	...	1	...	2	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...
– 25,	...	1	...	...	9	6	8	7	3	2	...	2	20	17	1	1	...	1	6	4	1	3	8	5	3	...	2	3	11	9	1	1	2	1	5	2	1	1	...	1	...	...	...	...	...	...
– 35,	2	3	...	...	6	5	10	11	1	1	1	...	18	17	4	1	1	2	5	1	1	1	10	12	1	...	...	3	14	10	2	1	1	1	...	4	...	1	...	...	...	...	...	...	...	...
– 45,	2	1	2	...	7	4	9	3	3	1	1	...	20	8	1	2	1	1	6	3	1	...	9	5	3	...	...	...	12	1	...	...	...	2	6	4	1	1	...	...	...	...	...	...	...	...
45 +,	...	...	...	...	8	1	6	2	1	2	2	...	17	5	1	...	2	...	8	...	...	2	5	3	2	...	...	...	9	2	1	...	...	...	5	2	...	1	...	...	...	...	...	...	...	...
Total,	6	5	3	...	32	17	34	24	8	7	4	2	78	50	8	4	4	4	27	8	3	6	33	26	9	1	2	7	46	24	4	2	3	4	18	13	3	4	...	1	...	...	...	...	...	...
Advanced Cases—																																													
– 5,	1	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 10.	2	1	2	1	...	...	...	...	...	...	...	3	...	3	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 15,	...	...	...	...	...	1	...	...	...	...	3	2	3	3	1	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
– 25,	8	10	5	6	2	8	6	10	3	9	23	22	34	49	15	12	...	...	3	1	...	4	7	16	1	1	...	5	8	23	1	...	...	...	2	3	...	...	...	...	...	1	...	...	...	...
– 35,	20	10	11	6	3	5	17	9	6	4	11	18	37	36	7	9	4	6	5	2	2	1	16	14	2	...	1	1	18	12	1	...	2	3	5	1	...	2	...	...	...	...	...	...	...	...
– 45,	9	10	7	7	2	...	10	3	5	10	14	6	31	19	9	3	2	2	1	1	3	...	9	11	4	...	...	1	14	11	...	...	1	1	2	1	...	...	...	...	...	...	...	...	...	...
45 +,	9	3	8	2	6	1	15	5	9	5	14	5	44	16	5	1	9	3	1	1	5	1	16	9	3	...	5	...	21	9	...	...	4	1	5	1	...	...	...	...	...	...	...	...	...	...
Total,	49	34	33	22	13	15	48	27	23	28	65	57	149	127	37	29	16	11	10	5	10	6	48	50	10	1	6	8	61	55	2	...	7	5	14	6	...	2	...	1	...	1	...	...	...	...

KNIGHTSWOOD FEVER AND TUBERCULOSIS HOSPITAL.

The number of patients dismissed, including deaths, for the year 1927 was 1,822, as against 1,616 for the previous year.

During the year all the wards were used for the treatment of fevers except two pavilions, admitting 80 patients, in which about the same number of cases of phthisis as formerly were treated.

The number of fever patients discharged from hospital was 1,413 and 169 died, making a total of 1,582 patients. The mortality rate among these patients was 10·6 per cent., as against 9·7 per cent. for the previous year.

This mortality rate was a little greater than in the year 1926, and was due to the fact that about half of the total number of cases dismissed, including deaths, were cases of acute primary pneumonia and measles, the mortality among which was 16·6 per cent., and 22·9 per cent. respectively.

Scarlet Fever.—The number of patients treated during the year was rather greater than that of the previous year, the number being 524, as against 432. The mortality was 1·1 per cent., as against 1·3 per cent. in the preceding year. The aurist visited weekly all patients suffering from otitis media, and it was found necessary to remove the tonsils and adenoids of 7 of these patients in order to hasten the drying up of the discharge. With regard to the Dick reaction, the results of about 500 tests in cases of scarlet fever proved that the test was of very little value as a diagnostic agent in scarlet fever. In the first six days of the illness of scarlet fever over 50 per cent. negative reactions were obtained, and 13·1 per cent. positive reactions resulted in a large number who had been ill for over 30 days. The large percentage of negatives in the early days of the disease and the residual positives in convalescence both prohibited any workable deductions being drawn from the results. It was made evident, however, that a Dick negative reactor would not take scarlet fever, provided that a reliable toxin had been used in the performance of the test. This fact proved of great value in cases of doubtful scarlet fever which showed no sign of any other infection. It is now possible to put these cases into a scarlet fever ward, and in this way the administration of the hospital was greatly facilitated.

In the case of the Schultz-Charlton reaction a positive result was found to be of great value in diagnosis, but a negative result gave very little aid. The great number of negative reactions obtained in true scarlatinal rashes of 24 hours' duration made the occurrence of a negative reaction in a doubtful rash of no help at all. The test assisted, however, in cases of scarlet fever with rash, but without fever and without sore throat. Three cases of this kind in which the rashes were considered to be due to enemas were diagnosed as scarlet fever by means of this test.

The new concentrated antitoxin for scarlet fever was administered to 135 acutely ill patients, as a rule not later than the third day of their illness. It was definitely observed that the antitoxin cut short the primary pyrexial period, it rapidly improved the physical well-being of the patient, and it diminished the amount of the desquamation. It decreased those symptoms and signs due to toxæmia, the rash, the inflammation and swelling of the throat, and the physical discomfort; but, as in diphtheria, it had no effect on organic changes already present, such as ulceration of the throat, otitis media or septic complications. It had a beneficial effect on toxic cases when given early, but had no effect on septic scarlatina. From this series of cases it could not be said that the administration of the serum prevented the onset of complications, and the results obtained in this respect were somewhat disappointing.

The serum was, however, found very useful in producing passive immunity among the Dick positives in diphtheria wards which had been crossed with scarlet fever. A dose of 5 c.c. of the scarlatinal antitoxin was found sufficient to produce passive immunity for from 10 to 14 days, with the obvious advantage that the wards did not require to be put in quarantine and beds otherwise not available were able to be utilised. Much work has been devoted in the hospital to the identification of the streptococcus scarlatinæ by means of toxin production and serological reactions, but the work proved very laborious and difficult.

Forty of the junior nursing staff were subjected to the Dick test, and there were three positive reactors who were actively immunised. This method was of great value in administration, as all the negative reactors could be safely sent to nurse the patients in scarlet fever wards.

Diphtheria.—The number of patients discharged from hospital was 193, and 3 died, making a total of 196 patients. The cases were of a mild type, the mortality being 1·5 per cent., as against 7·6 per cent. in the previous year. The aurist enucleated the tonsils and removed the adenoids from six patients who were found to be carriers, and in a very short time after the operation these patients were able to be dismissed. The Schick test was performed on 12 nurses, 4 of whom were found to give a positive reaction, and were later immunised against the disease with toxin—antitoxin mixture.

Measles. The number of cases treated was 179, and was the most fatal of the infections. The fatality rate, 23·03 per cent., was for the most part due to pneumonia, either alone or combined with gastro-enteritis. The type of case admitted was usually severe.

Pneumonia.—The number of patients treated totalled 518, and of these 262 were case of broncho-pneumonia, 224 were cases of lobar pneumonia, and 32 were found to be suffering only from bronchitis. The mortality rate for the whole group was 16·6 per cent., which was greater than in the previous year when the mortality was 13·7 per cent. The death-rate for the cases of broncho-pneumonia was 18·3 per cent., and in a little less than half of the latter percentage of cases, enteritis, as in former years, was a serious complication.

Whooping-Cough.—The number of patients discharged from hospital was 104, and 31 died, making a total of 135 patients. Both the prophylactic and the curative vaccines for this disease were used with what appeared to be beneficial results. The majority of the deaths were due to pneumonia, either alone or combined with enteritis.

Pulmonary Tuberculosis.—During the past year 174 phthisis cases were discharged from hospital, and 66 died, making a total of 240 patients. The hospital was mainly used for the treatment and isolation of the more advanced types of cases. As an illustration of this no less than 45 per cent, of these cases were in an advanced stage of the disease on admission to hospital.

The following table shows the medical classification into which these patients were grouped when admitted :—

Stage of Disease.	Number of Cases.	Number of Deaths in each group.
Early, ...	18	—
Intermediate, ...	114	7
Advanced, ...	108	59
Total, ...	240	66

Details of each of these groups are shown in the appended table, the salient points of which may be summarised as follows :—

Stage of Disease.	Arrested.	Much Improved.	Improved.	Not Improved.	Died.	Total.
Early Cases, ...	—	1	15	1	—	17
Intermediate Cases,	—	3	76	10	7	96
Advanced Cases, ...	—	1	22	17	39	79
Total, ...	—	5	113	28	46	192

NOTE.—The above table excludes 28 patients whose duration of stay was less than four weeks, and 20 patients who died within a month of admission.

Apart from careful nursing and attention to the general health, no special form of treatment was adopted, as the majority were in a very advanced stage of the disease.

The health of the hospital staff has been good, no illness of a serious nature having occurred.

WILLIAM DOW,
Physician-Superintendent,

April, 1928.

KNIGHTSWOOD HOSPITAL.—Statement of Cases Treated According to Sex.

Data based on Dismissals and Deaths for Year 1927.

Disease.	In Hospital 1st Jan.		Admitted.		Dismissed.		Died.		Remaining in Hospital. 31st Dec.		Mortality per cent.		Av. Residence (Days).			
													Dismissals.		Deaths.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Typhus,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric,	...	...	1	...	1	...	...	...	...	...	...	...	24	...	...	...
Paratyphoid,	...	...	3	3	3	3	...	...	...	...	...	...	30	28	...	...
Puerperal,	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever,	48	61	211	261	226	292	3	3	30	27	1·3	1·0	42	43	22	18
Diphtheria and Memb. Croup,	18	9	95	102	91	102	2	2	20	7	2·2	1·9	38	38	32	26
Erysipelas,	...	...	...	1	...	1	...	...	...	...	...	...	...	40	...	...
Cholera,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebro-spinal Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ophthalmia Neonatorum,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trachoma,	...	...	...	...	...	...	...	..	...	.	...	...	...	...	...	...
Acute Encephalitis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Polioencephalitis,	...	...	...	...	...	...	...	...	...	...	...	...	. .	...	...	...
Acute Poliomyelitis,	...	..	...	..	..	...	...	...	...	...	...	...	...	...	...	...
Acute Primary Pneumonia,	53	20	287	174	267	165	63	23	10	6	19·1	12·2	42	44	21	18
Acute Influenzal-Pneumonia,	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...
Malaria,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dysentery,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Relapsing Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trench Fever,	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles,	...	...	139	152	65	76	24	17	50	59	27·0	18·3	38	40	32	34
German Measles,	...	...	3	3	3	3	...	...	...	...	...	...	40	36	...	...
Whooping-Cough,	..	...	65	70	53	51	12	19	...	...	18·5	27·1	30	32	21	20
Chickenpox,	...	...	...	2	...	2	...	...	...	...	...	...	...	30	...	...
Others,	3	2	1	10	2	8	...	...	2	4	...	...	38	32	..	..
Totals,	122	92	805	778	711	703	104	64	112	103	12·8	8·3	37	35	25	24

KNIGHTSWOOD HOSPITAL.—Statement showing Age and Sex Distribution of Cases Dismissed, and Deaths during the Year 1927.

	Age.	Paratyphoid B.	Typhus.	Enteric.	Puerperal.	Smallpox.	Scarlet Fever.	Diph. and Memb. Croup.	Erysipelas.	Cerebro-spinal Fever.	Lethargica Encephalitis.	Acute Poliomyelitis.	Acute Primary Pneumonia.	Acute Influenzal-Pneumonia.	Malaria.	Dysentery.	Pulmonary Tuberculosis.	Other Forms of Tub.	Measles.	German Measles.	Whooping-Cough.	Chickenpox.	Other Affections.	Total.
Cases (including Deaths).																								
Male.	– 1	...	...	...	...	...	2	2	...	...	...	...	29	...	...	...	...	...	12	...	22	...	1	68
	– 2	...	...	...	...	...	11	8	...	...	...	...	46	...	...	...	...	...	13	...	19	...	...	97
	– 3	...	...	...	...	...	19	7	...	...	...	...	35	...	...	...	...	...	19	...	6	...	...	86
	– 4	...	...	...	...	...	19	16	...	...	...	...	40	...	...	...	...	...	16	...	6	...	...	97
	– 5	...	...	...	...	...	28	9	...	...	...	...	28	...	...	...	...	...	10	...	6	...	1	82
	– 10	...	...	...	...	...	71	17	...	...	...	...	26	...	...	...	...	...	12	...	6	...	...	132
	– 15	...	...	...	...	...	44	11	...	...	...	...	28	...	...	...	...	...	2	1	...	...	...	86
	– 25	...	...	1	...	...	25	10	...	...	...	...	38	...	...	...	...	...	1	2	...	...	...	77
	– 35	3	...	...	...	...	7	7	...	...	...	...	20	...	...	...	...	...	3	...	...	...	...	40
	– 45	...	...	...	...	...	1	6	...	...	...	...	24	...	...	...	...	...	1	...	...	...	...	32
	45 +	...	...	...	...	...	2	...	...	...	...	...	16	...	...	...	...	...	...	...	...	...	...	18
	Total,	3	...	1	...	...	229	93	...	...	...	...	330	...	...	...	...	...	89	3	65	...	2	815
Female.	– 1	...	...	...	...	...	6	5	...	...	...	...	14	...	...	...	...	...	14	...	15	...	...	54
	– 2	...	...	...	...	...	13	5	...	...	...	...	29	...	...	...	...	...	22	...	13	...	...	82
	– 3	...	...	...	...	...	22	13	...	...	...	...	26	...	...	...	...	...	16	...	10	...	...	87
	– 4	...	...	...	...	...	24	10	...	...	...	...	24	...	...	...	...	...	14	...	10	...	...	82
	– 5	...	...	...	...	...	34	9	...	...	...	...	17	...	...	...	...	...	4	...	17	...	...	81
	– 10	...	...	...	...	...	90	24	...	...	...	...	19	...	...	...	...	...	6	...	5	1	...	145
	– 15	1	...	...	...	...	51	12	...	...	...	...	16	...	...	...	...	...	...	1	...	1	1	83
	– 25	2	...	...	...	...	39	15	...	...	...	...	11	...	...	...	...	...	4	2	...	...	5	78
	– 35	...	...	...	...	...	10	5	...	...	...	...	17	...	...	...	...	...	6	...	...	...	1	39
	– 45	...	...	...	...	...	4	5	...	...	...	...	10	...	...	...	...	...	7	...	...	...	1	27
	45 +	...	...	...	...	...	2	1	1	...	...	...	5	...	...	...	...	...	...	...	...	...	...	9
	Total,	3	...	...	...	...	295	104	1	...	...	...	188	...	...	...	...	...	93	3	70	2	8	767
Deaths.																								
Male.	– 1	...	...	...	...	...	...	...	...	...	...	...	7	...	...	...	...	...	4	...	4	...	...	15
	– 2	...	...	...	...	...	...	...	...	...	...	...	10	...	...	...	...	...	12	...	2	...	...	24
	– 3	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	4	...	2	...	...	12
	– 4	...	...	...	...	...	1	...	...	...	...	...	6	...	...	...	...	...	4	...	2	...	...	13
	– 5	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	2	...	...	6
	– 10	...	...	...	...	...	...	...	...	...	...	...	9	...	...	...	...	...	...	...	...	...	...	9
	– 15	...	...	...	...	...	1	1	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	5
	– 25	...	...	...	...	...	1	1	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	5
	– 35	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	3
	– 45	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	6
	45 +	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	6
	Total,	...	...	...	...	...	3	2	...	...	...	...	63	...	...	...	...	...	24	...	12	...	...	104
Female.	– 1	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	2	...	4	...	...	8
	– 2	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	5	...	5	...	...	15
	– 3	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	3	...	5	...	...	11
	– 4	...	...	...	...	...	...	1	...	...	...	...	3	...	...	...	...	...	5	...	...	...	...	9
	– 5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	5
	– 10	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	4
	– 15	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
	– 25	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	2
	– 35	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	2
	– 45	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
	45 +	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	5
	Total,	...	...	...	...	...	3	2	...	...	...	...	23	...	...	...	...	...	17	...	19	...	...	64

KNIGHTSWOOD HOSPITAL.—Table showing Alterations in Diagnosis of Cases and Deaths during 1927.

	Originally Certified as													
Diagnosis Altered to	Enteric Fever	Continued and Undefined Fever	Scarlet Fever	Diphtheria	Erysipelas	Cerebro-spinal Fever	Lethargica Encephalitis	Acute Primary Pneumonia	Acute Influenzal Pneumonia	Dysentery	Measles	Roseola	Whooping-Cough	Other Affections
Enteric Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Paratyphoid Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Puerperal Fever,	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Scarlet Fever,	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Diphtheria,	...	...	1	...	...	...	...	1	...	...	...	...	...	...
Cerebro-spinal Fever,	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Lethargica Encephalitis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Primary Pneumonia,	...	...	...	...	...	...	...	...	...	...	...	..	..	...
Tuberculosis (all forms),	...	1	...	...	...	...	...	3	...	...	...	...	...	...
Measles,	...	...	4	...	...	...	...	7	...	...	...	...	...	...
Roseola,	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Whooping-Cough,	...	...	..	...	...	...	...	1	...	...	...	...	...	...
Chickenpox,	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Influenza and Influenza associated with other Diseases,	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of the Nervous System.	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Other Diseases of the Respiratory System,	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diseases of the Circulatory System,	...	..	...	..	...	...	...	...	...	...	...	...	...	...
Diseases of the Digestive System,	..	...	...	..	...	...	...	...	...	...	...	...	...	...
Diseases of the Skin and of the Cellular Tissue,	...	...	...	...	...	...	...	...	...	...	...	...	...	...
No Apparent Disease,	...	...	2	...	...	1	...	5	...	...	...	...	...	...
All other Diseases,	...	...	2	1	...	1	...	4	...	...	...	...	...	...

KNIGHTSWOOD HOSPITAL.—PULMONARY TUBERCULOSIS.—TABLE SHOWING CASES DISMISSED AND DEATHS DURING THE YEAR 1927, AND THE AVERAGE RESIDENCE.

	Number of Cases Dismissed.	Number of Deaths.	Average Residence.						
			-30	-50	-100	-150 days.	-200	-300	+300
Pulmonary Cases—									
Early, - - - - - - -	18	...	...	6	9	3	...	...	...
Intermediate, - - - - - -	107	7	16	18	30	24	24	6	3
Advanced, - - - - - -	49	59	16	40	46	26	23	14	2
Total, - - - - -	174	66	32	64	85	53	47	20	5
	240								

KNIGHTSWOOD HOSPITAL.—PULMONARY TUBERCULOSIS.—SHOWING STAGE OF DISEASE, AGE, RESULT OF TREATMENT, &c., OF PATIENTS DISMISSED DURING 1927.

Ages	Not Classified further.				Result of Treatment.										Complications.				Condition on or Reason for Dismissal.										Result of Sputum Examinations.									
	Less than 4 Weeks' residence.		Deaths among these		Much Improved.		Improved.		Not Improved.		Died.		Total.		Tubercular.		Other.		Fit for Work or School.		Unfit.		Left Own Accord or removed by Parents.		Other Reasons.		Transferred to other Institutions.		+Admitted. +Dismissed.		+Admitted. −Dismissed.		−Admitted. +Dismissed.		−Admitted. −Dismissed.		No Sputum.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Early Cases—																																						
− 5,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
−10,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
−15,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
−25,	...	...	...	...	...	...	8	...	...	...	...	...	8	...	...	...	...	...	7	...	1	...	...	...	...	...	...	...	7	...	...	...	...	...	1	...	...	...
−35,	1	...	...	...	...	...	3	...	1	...	...	...	4	...	...	...	...	...	3	...	1	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...
−45,	...	...	...	...	1	...	4	...	...	...	...	...	5	...	...	...	...	...	4	...	1	...	...	...	...	...	...	...	4	...	...	...	...	...	1	...	...	...
45+,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total,	1	...	...	...	1	...	15	...	1	...	...	...	17	...	...	...	...	...	14	...	3	...	...	...	...	...	...	...	15	...	...	...	...	...	2	...	...	...
Intermediate Cases—																																						
− 5,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
−10,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
−15,	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
−25,	3	...	...	...	1	...	17	...	3	...	2	...	23	...	...	...	...	...	10	...	11	...	...	...	...	...	...	...	20	...	...	...	...	...	3	...	...	...
−35,	7	...	...	...	1	...	23	...	4	...	1	...	29	...	...	...	...	...	18	...	10	...	...	...	...	...	...	...	27	...	...	...	...	...	2	...	...	...
−45,	5	...	...	...	...	...	14	...	2	...	2	...	18	...	...	...	...	...	12	...	4	...	...	...	...	...	...	...	16	...	...	...	...	...	2	...	...	...
45+,	3	...	...	...	1	...	21	...	1	...	2	...	25	...	...	...	...	...	18	...	5	...	...	...	...	...	...	...	22	...	...	...	...	...	3	...	...	...
Total,	18	...	...	...	3	...	76	...	10	...	7	...	96	...	...	...	...	...	58	...	31	...	...	...	...	...	...	...	86	...	...	...	...	...	10	...	...	...
Advanced Cases—																																						
− 5,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
−10,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
−15,	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
−25,	8	...	5	...	...	...	8	...	6	...	9	...	23	...	...	...	...	...	3	...	11	...	...	...	...	...	...	...	22	...	...	...	...	...	1	...	...	...
−35,	7	...	5	...	...	...	4	...	2	...	11	...	17	...	...	...	...	...	2	...	4	...	...	...	...	...	...	...	16	...	...	...	...	...	1	...	...	...
−45,	7	...	6	...	...	...	6	...	7	...	10	...	23	...	...	...	...	...	3	...	10	...	...	...	...	...	...	...	22	...	...	...	...	...	1	...	...	...
45+,	7	...	4	...	1	...	3	...	2	...	9	...	15	...	...	...	...	...	2	...	4	...	...	...	...	...	...	...	15	...	...	...	...	...	...	...	...	...
Total,	29	...	20	...	1	...	22	...	17	...	39	...	79	...	...	...	...	...	11	...	29	...	...	...	...	...	...	...	76	...	...	...	...	...	3	...	...	...

SHIELDHALL FEVER HOSPITAL.

During the year 1,154 patients passed through the hospital, a decrease of 36, as compared with the previous twelve months. The general death-rate was 8·3 per cent., as compared with 8·4 per cent.

The efficiency of the hospital is still handicapped by the limited accommodation for the nursing staff. A bigger staff is required if all the wards are to be in use; in present circumstances one of them must lie empty.

The health of the staff has been very good, and there was no case of infectious disease. The routine application of the Schick test, with immunisation of the positive reactors, now affords, once the immunity has developed, complete protection against diphtheria. The Dick test for susceptibility to scarlatina is less reliable and, so far, nurses have not been immunised against that disease, though all have been tested.

The new visiting hours have been in operation since August, and have proved quite satisfactory.

The Aural Surgeon continues to attend the hospital weekly, and his work for the year may be summarised thus:—

Disease.	Number of Patients.	Operations.
Scarlatina, ...	37	17
Other Diseases, ...	7	2
	44	19

Total attendances on patients, 175.

Scarlet Fever.—379 patients were treated. The mild type of infection observed in 1926 again prevailed, and only three cases were fatal. Excluding cervical adenitis, discharges from the ears and nose remain the most common complications. Very favourable results were reported last year of the treatment of otorrhœa by the removal of tonsils and adenoids. During 1927 the improvement following operation was less striking, and sometimes absent, but several examples of almost immediate benefit occurred. The results may be tabulated as follows:—

	1926.	1927.
Average time of onset of discharge, - -	12th day.	16th day of illness.
Average duration of discharge (all cases), -	40·0 days.	41·3 days.
,, ,, ,, after operation,	14·9 ,,	29 1 ,,

In addition, one patient required the radical operation for acute mastoid infection.

The value of serum treatment in scarlet fever is now universally recognised, and all severe cases were given, rarely without benefit one or more doses of 15 c.c. It must be admitted, however, that the average residence in hospital of serum-treated patients was, during

1927, no shorter than that of the scarlatina patients as a whole. The antitoxin has also been found valuable as a prophylactic. Given to the Dick-positive reactors in a ward exposed to scarlet fever, it effectively prevented the spread of the disease.

Pneumonia.—312 patients were treated. Cases of pneumonia again formed a large proportion of the admissions to hospital and, in order to liberate more beds for the disease, several convalescents were drafted to the children's country home at Scotstoun. The mortality rate (14·1 per cent.) is considerably less than that of 1926, probably on account of a smaller proportion of the influenzal type. 10 cases of empyema were operated on, with 3 deaths. Enteritis in young children was less prevalent than usual. As regards treatment, the combined pneumococcus immunogen of Parke, Davis, & Co., was given a trial; all cases so treated did well, but whether as a result of this method or not is inconclusive. The drug ephedrine was found valuable in the treatment of cases presenting asthmatic symptoms.

Diphtheria. — 282 patients were treated. This disease was very prevalent during the second half of the year, and fatal infections were about twice as common as in 1926. The types met with were:—Faucial, 233; faucial and nasal, 8; faucial and laryngeal, 6; laryngeal, 25; bacteriological, 10. Of the laryngeal cases, 7 required tracheotomy, and 3 of these were fatal. 2 convalescent carriers were successfully treated by removal of tonsils and adenoids.

Measles.—81 cases. The epidemic of measles, at its height at the end of the year was, as far as can be judged from cases received here, of much greater severity than that of the winter of 1925-26. The patients, nearly all babies of the poorest class, came from all parts of the City, many extremely feeble, and not a few moribund on arrival in hospital. The high death-rate was due almost entirely to the onset of pneumonia. Enteritis, also very frequent and fatal in the last epidemic, was relatively uncommon; but convalescence was often delayed by the occurrence of septic eruptions or of abscesses of the cellular tissues, which the poor general condition rendered very slow of healing. There is no doubt that measles is the most serious of all the commoner infections of young children.

Other Diseases. — Of the remaining 100 cases, 48 suffered from whooping-cough, and 16 from German measles (almost invariably notified as scarlatina). With few exceptions, the remainder were not suffering from any infectious disease. Deaths in this group include 2 from severe burns, 1 from peritonitis (after operation), and 1 from Vincent's angina, followed by pneumonia. All of these were notified as scarlatina. In all 69 diagnoses were revised during the year.

WILLIAM NAPIER,
Physician-Superintendent.

21st March, 1928.

SHIELDHALL HOSPITAL.—Statement of Cases Treated according to Sex.

Data Based on Dismissals and Deaths for Year 1927.

Disease.	In Hospital 1st Jan.		Admitted.		Died.		Dismissed.		Remaining in Hospital at 31st Dec.		Mortality Per Cent.		Average Residence (Days). Dismissals.		Average Residence (Days). Deaths.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Typhus,	...	...	...	...		...	...	...	..	...	...	...	...	...	...	...
Enteric,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Continued and Undefined,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever,	31	35	143	203	2	1	154	222	18	15	1·3	0·5	51	43	45	5
Diphtheria and Memb. Croup,	11	15	131	170	9	8	115	150	18	27	7·3	5·1	44	36	16	5
Erysipelas,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera,	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...
Cerebro-spinal Fever,	...	...	1	...	1	...	...	...	...	...	100·0	...	...	...	3	..
Ophthalmia Neonatorum,	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...
Trachoma,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lethargica Encephalitis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Polioencephalitis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Poliomyelitis,	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...
Acute Lobar-Pneumonia,	8	2	132	39	16	3	114	35	10	3	12·3	7·9	29	29	7	2
Acute Broncho-Pneumonia,	7	7	91	52	15	10	72	47	11	2	17·2	17·5	31	27	5	11
Malaria,	...		...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dysentery,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Relapsing Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trench Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Non-Pulmonary Tuberculosis,	...	...	2	...	2	...	...	...	...	...	100·0	..	...	...	8	...
Measles,	...	...	40	66	7	10	21	43	12	13	25·0	18·9	21	19	6	10
German Measles,	...	...	9	7	...	...	9	7	...	...	...	...	10	19	...	...
Whooping-Cough,	...	1	21	26	3	5	18	22	...	...	14·3	18·5	38	52	11	14
Chickenpox,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Affections—*e.g.*, Mumps, Vincent's Angina,	...	...	11	22	1	3	10	19	...	...	9·1	13·6	15	17	45	15
Total,	57	60	581	585	56	40	513	545	69	60	9·8	6·8	38·9	36·4	10·4	10·0

SHIELDHALL HOSPITAL.—STATEMENT SHOWING AGE AND SEX DISTRIBUTION OF CASES DISMISSED, AND DEATHS DURING THE YEAR 1927.

	Age.	Paratyphoid B.	Typhus.	Enteric.	Puerperal.	Smallpox.	Scarlet Fever.	Diph. and Memb Croup	Erysipelas	Cerebro-spinal Fever.	Lethargica Encephalitis.	Acute Polio-encephalitis	Acute Lobar-Pneumonia.	Acute Broncho-Pneumonia.	Malaria.	Dysentery.	Non-Pulmonary Tuberculosis.	Measles.	German Measles	Whooping-Cough.	Chickenpox.	Other Affections.	Total.
Cases (including Deaths).																							
Male.	– 1	...	...	...	...	...	1	5	...	...	..	...	...	30	...	...	...	3	...	1	...	2	42
	– 2	...	...	...	...	...	5	8	...	1	...	...	3	26	...	...	...	5	...	8	...	3	59
	– 3	...	...	...	...	...	6	9	...	...	...	...	2	14	...	...	1	7	1	1	...	2	43
	– 4	...	...	...	..	...	14	10	...	...	...	...	3	7	...	...	...	3	...	5	...	...	42
	– 5	...	...	...	...	...	16	11	...	...	...	...	5	3	...	...	...	4	2	1	...	...	42
	– 10	...	...	...	...	...	72	59	...	...	..	...	29	3	...	...	1	6	6	5	...	1	182
	– 15	...	..	...	..	...	23	9	...	...	...	...	15	1	...	.	...	...	...	...	...	2	50
	– 25	...	...	...	...	...	15	7	...	...	...	...	23	1	...	...	..	...	...	...	...	...	46
	– 35	...	...	...	...	...	2	2	...	...	...	...	17	...	...	...	...	...	...	...	...	1	22
	– 45	...	...	...	...	...	...	2	...	...	...	...	14	2	...	...	...	...	...	...	...	...	18
	45 +	...	...	...	...	...	2	2	...	...	...	...	19	...	...	...	...	...	..	...	...	...	23
	Total,	...	..	...	...	...	156	124	...	1	...	..	130	87	...	...	2	28	9	21	...	11	569
Female.	– 1	...	...	...	...	...	...	2	...	...	...	...	...	9	...	...	...	5	...	5	...	1	22
	– 2	...	...	...	...	...	4	7	...	..	...	...	2	26	...	...	...	12	1	6	...	4	62
	– 3	..	...	...	...	...	9	7	...	...	...	...	1	9	...	..	...	10	2	7	...	4	49
	– 4	...	...	...	...	...	19	13	...	...	...	...	1	6	...	...	...	2	...	5	...	1	47
	– 5	...	...	...	...	...	19	16	...	...	...	...	1	1	...	...	...	11	...	2	...	...	50
	– 10	...	...	...	...	...	94	54	...	...	...	...	7	5	...	...	...	7	4	1	...	...	172
	– 15	...	...	...	...	...	41	29	...	...	..	...	5	...	...	.	...	...	...	1	...	4	80
	– 25	..	...	...	...	...	23	18	...	...	...	...	5	...	...	...	...	5	...	...	...	5	56
	– 35	...	...	...	...	...	8	8	...	...	...	...	4	1	...	...	..	1	...	...	...	2	24
	– 45	...	...	...	...	...	5	2	...	...	...	...	4	...	...	...	...	...	...	...	...	...	11
	45 +	..	...	...	...	...	1	2	...	...	...	...	8	...	...	...	...	...	...	...	...	1	12
	Total,	...	...	...	...	...	223	158	...	...	...	...	38	57	...	...	...	53	7	27	...	22	585
Deaths.																							
Male.	– 1	...	...	...	...	...	...	2	...	..	...	...	...	10	...	...	...	2	...	...	...	...	14
	– 2	...	...	...	...		1	1	...	1	...	...	1	4	...	...	...	2	...	3	...	...	13
	– 3	...	...	...	...	..	...	1	...	...	...	...	...	...	...	...	1	2	...	...	...	1	5
	– 4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	– 5	..	...	...	...	...	...	1	...	...	...	...	...	...	...	. .	...	...	...	...	...	...	1
	– 10	...	...	...	...	...	1	4	...	...	...	...	1	1	...	...	1	1	...	...	...	...	9
	– 15	...	...	...	...	...	...	...	...	...	...	.	...	...	...	...	...	...	...	...	...	...	...
	– 25	...	...	...	...	...	..	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	2
	– 35	..	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	.	...	...	...	...	1
	– 45	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	4
	45 +	...	...	...	...		...	...	...	...	...	...	7	...	...	...	...	...	...	...	...	...	7
	Total,	...	...	..	...	.	2	9	...	1	...	...	16	15	...	...	2	7	...	3	...	1	56
Female.	– 1	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	2	...	2	...	...	7
	– 2	...	...	...	...	...	...	3	...	...	...	...	..	7	...	...	...	5	...	2	...	1	18
	– 3	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	3	...	...	...	1	5
	– 4	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1
	– 5	...	..	..	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
	– 10	...	...	...	...	...	1	2	...	...	...	...	1	...	...	...	...	...	...	...	...	...	4
	– 15	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...
	– 25	...	...	...	...	...	...	...	...	...	..	...	..	...	...	...	...	...	...	...	...	1	1
	– 35	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	..	...	1
	– 45	...	...	...	..	...	...	1	..	...	...	...	...	...	...	...	...	...	...	...	...	...	1
	45 +	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1
	Total,	...	...	...	...	...	1	8	...	...	...	...	3	10	...	...	...	10	...	5	...	3	40

SHIELDHALL HOSPITAL—Table showing Alterations in Diagnosis of Cases Dismissed and Deaths during the Year 1927.

	Originally Certified as					
Diagnosis Altered to	Diphtheria.	Scarlatina.	Measles.	German Measles.	Whooping-Cough.	Pneumonia.
Diphtheria, - -	...	...	...	...	...	1
Scarlatina, - - -	3	...	2	...	...	2
Diphtheria and Scarlatina,	1	1	...	...	...	...
Measles, - - -	1	3	...	...	...	5
German Measles, - -	...	15	...	...	...	...
Whooping-Cough, - -	...	...	1	...	...	4
Pneumonia, - -	1	...	...	...	...	...
Pneumonia and Chickenpox,	...	...	...	...	...	2
Cerebro-spinal Fever, -	...	...	...	...	...	1
Vincent's Angina, - -	...	2	...	...	...	...
Perilaryngeal Abscess, -	1	..	...	...	...	...
Tonsillitis, - - -	...	1	...	...	...	...
Rhinitis, - - -	...	...	...	...	1	...
Erythema, - -	...	7	...	...	...	...
Appendicitis, - - -	...	1	...	...	...	...
Phlebitis, - - -	...	...	...	...	...	1
Tuberculous Meningitis,	...	1	...	...	...	...
No apparent Disease, -	...	10	...	...	...	1

ROBROYSTON TUBERCULOSIS HOSPITAL.

Notes on Surgical Tables.

GLANDS.

Surgical Table No. 1. — The number of patients suffering from glandular tuberculosis treated here has steadily fallen year by year. In 1923, 87 were dismissed from hospital, whereas this year only 26 have been dismissed. This decrease in numbers is to be accounted for by at least two factors. There has been an increasing tendency to reserve hospital beds for more serious cases, and to treat minor tuberculosis at the Dispensary. This has been especially so since clinics for the ultra-violet radiation of out-door patients have been established. Thus only very extensive and late cases, or cases requiring active surgical measures have been sent in. Only 2 of the 26 herein recorded, could be described as anything but extensive. Also, apart from this it has been observed that the incidence of enlarged tuberculous cervical glands has steadily diminished, and this diminution probably is attributable to the influence of school clinics where diseased teeth and tonsils are more and more frequently dealt with.

SPINE.

Surgical Table No. 2.—The total number of spine cases passing out of hospital during the year is somewhat higher than formerly. Of these, 47·5 per cent. had healed and consolidated lesions, as compared with 35·2 per cent. in 1926, and 52·6 per cent. in 1925. Once more the age factor is emphasised. In all there were 14 deaths; 9 of these occurred in 21 patients of 15 years of age or over, while only 5 occurred in 42 patients under 15 years. Also, only three of the patients over 15 years were dismissed with a healed and consolidated lesion, while 27 of those under 15 years had their lesions healed and consolidated. The hopeful nature of the results in children remains an important feature, and depends on the prevention of secondary pyogenic invasion of any tuberculous debris, and on a sufficiently long period of immobilisation. In the series under review the average duration of stay in hospital has been 658 days.

BONES OTHER THAN SPINAL.

Surgical Table No. 3.—In this table are grouped tuberculosis of the long bones, tuberculous dactylitis, &c., and tuberculosis of the cranial bones. Of these practically 90 per cent. were dismissed fit, although the average period of treatment was slightly more than one year. This may seem an unnecessarily prolonged stay in hospital but it must be borne in mind that lesions of this nature are almost invariably multiple, and are evidence of a widespread blood-borne infection. Even the local lesions are sometimes very intractable, and are not benefited by active surgical intervention. They are the cases pre-eminently suitable for ultra-violet light treatment, but it must be recognised that this is merely an adjuvant; that it cannot, and should not, be expected to replace a suitable hygienic regime, and that it does not dispense with proper dressing and efficient immobilisation.

Hip Joint.

Surgical Table No. 4.—The number of hip cases sent out of hospital in this year has fallen to 38, that is 12 less than last year. The percentage healed is approximately 60, as compared with 66·6 per cent. in 1926. These figures call for very little comment. Within recent years hip-joint disease particularly seems to have become of a milder form; abscess formation used to be frequent. In the recent cases it has been comparatively rare. It will be noted that only in 8 instances was it not possible to undo to a considerable extent the initial deformity.

Joints other than Hip.

Surgical Table No. 5.—The numbers and results achieved in these cases are much as in 1926. Diseases of the ankle, elbow, and wrist mostly yield to conservative measures if pursued for long enough. The results from a functional point of view are much more satisfactory than they used to be, and actinotherapy has in no small measure contributed to this. Certain cases of knee-joint tuberculosis also respond well, but others, and frequently the synovial type where there is a large white swelling, require very prolonged treatment, and some of them fail to heal. There will always be a percentage of lesions of the knee where operative measures will be necessary.

Abdominal Tuberculosis.

Surgical Table No. 6.—More of these cases have been treated; and 71 have been discharged from hospital, as compared with 58 in 1926, and of these 57·8 per cent have been fit. This is an increase from 41·4 per cent. last year.

Treatment.

Unless for the experimental use of "osmoserin" (Ruppel) in 42 cases, no noteworthy change has taken place in the treatment of non-pulmonary tuberculosis. As in former years conservative methods have mainly been used.

Artificial Light Therapy. — This method, which is merely an additional weapon in the armamentarium against tuberculosis and not a panacea, has again been utilised to as great an extent as possible, and during 1927, 206 patients were irradiated, the total number of exposures given numbering 17,500. The indications for actinotherapy and its limitations in practice have been described in previous reports.

Aspirations and Injections.—In the majority of instances abscess complications have been treated by aspiration, and into some of them subsequent injections of modifying fluids have been made. Sinuses have been treated by injections of paste. During the year 2,380 aspirations were performed; and 378 fluid and 320 paste injections were given.

Operations.—Operative treatment has, as in former years, been necessary in many of the advanced secondarily infected cases received. Tenotomies and manipulations have also been carried out when deformity existed in quiescent hip or knee disease. During the year 61 major and 87 minor operations have been performed. This is about the usual average. The new theatre block has been in use for the most of this period.

Appliances. — Additional use has been made of the Carshalton orthopædic carriage in the treatment of spinal caries, although, as yet, the Berck tray is used for the majority of cases.

The Pyrford double-abduction frame mounted on a Carshalton carriage has been introduced for the immobilisation of some cases of hip-joint disease, but as a routine the adjustable extension apparatus, previously described, has been retained.

During the year 278 plaster appliances were made for patients with joint tuberculosis, and 147 certalmid appliances. Certalmid is still proving quite satisfactory for the construction of spinal jackets and hip splints.

Radiology.—The radiological equipment has been transferred to the new block where much better accommodation is available. Increasing use is being made of the apparatus, and during the year under review 949 patients were examined by X-rays, 1,780 radiograms being taken.

"Osmoserin" (Ruppel) Serum.

The following report was prepared by Dr. Ian M'Cracken, Resident Medical Officer, describing the results obtained from the administration of "Osmoserin" (Ruppel) in cases of surgical tuberculosis:—

Treatment by this method began on 17/11/26 and, during 1927, 42 cases received courses of injections.

Many of the cases earlier in the series (1) had been in hospital for a considerable time; and (2) had previously received treatment by other methods. The only methods of treatment which were continued along with the administration of the serum in addition to general sanatorium regime were (1) immobilisation by means of appliances; (2) aspiration of abscesses and dressing of sinuses where necessary.

The question of control presented difficulty in view of the wide individual differences in patients. It was thought advisable to control the results of treatment by comparison with the average results of treatment obtained in the hospital.

Cases Treated.—The ages of patients selected for treatment ranged from 4 to 62 years. The 42 cases were made up as follows :—

(*1*) Sex —	Males, - - - -	24
	Females, - - - -	18
(2) Site of Lesion —	Knee, - -	14
	Hip, - - -	10
	Spine, - -	7
	Ankle, - -	4
	Elbow, - -	1
	Shoulder, - -	1
	Os Calcis, - -	1
	Femur, - -	1
	Pubis, - -	1
	Abdomen, - -	1
	Multiple, - -	1
		42

More than half the number (22 cases) had had previous treatment of some kind; in 11 cases this was operative. 12 of the cases were complicated by pyogenic infection; 9 cases by tuberculous abscess formation. 1 case had paralysis of the lower limbs.

Method of Treatment. — 10 cases received injections of human serum, the remainder bovine serum. The injections were given intramuscularly and each patient received three courses, a course consisting of 100 c.c.'s of serum. In most cases this amount was given in ten injections of 10 c.c.'s each, but in some cases (*e.g.*, in small children) the amount of the dose was reduced and the number of injections increased. The injections were given at intervals of two days, and a period of twenty days was allowed to elapse between the courses. The rectal temperature was recorded every four hours.

Effects During Treatment.—In no case did the patient complain of any general discomfort or local irritation at the site of injection after the injections. In one or two cases there was a slight increase in the amount of discharge from an infected sinus, representing possibly a focal reaction. Of the 42 cases, 33 showed a temperature reaction during the course of injections. Of these, 14 showed marked pyrexia about the 8th to 10th day after the first injection of a course. The remainder showed only general or occasional slight pyrexia.

Five cases showed rashes of an urticarial or erythematous nature; all of these about the eighth to tenth day after the first injection of a course.

In one case two new tuberculous lesions developed. In a second case an axillary adenitis occurred, accompanied by the appearance of two small nodules on the forearm and swelling of the forearm and hand.

Subsequent Treatment.—In four cases, which showed no improvement, it was found necessary to resort to operative measures after the administration of serum. In two of these the affected limb was amputated.

Results of Treatment.—Of the 42 cases, 38 received three full courses, treatment in the other 4 cases being interfered with by various causes (*e.g.*, intercurrent illness, irregular dismissal). 4 were dismissed, but only 1 of these was improved.

Dealing with all the cases, it is found that the clinical condition shows improvement in 26 cases, or 62 per cent.; 1 death occurred. The radiological examinations show improvement in a smaller proportion of cases—17, or 45 per cent. As in surgical tuberculosis, generally, the percentage of cases showing improvement is greater in the lower age groups:—

	Improved.	Not improved.	Died	Total.	% Improved.
Clinical,	26	15	1	42	62
Radiological,	17	20	1	38	45
Clinical: In Age Groups.					
1 — 10	11	5	...	16	69
11 — 20	8	6	...	14	57
21 — 30	4	3	1	8	50
31 — 50	1	...	...	1	...
50 +	2	1	...	3	...
Total,	26	15	1	42	62

The effect of complications on the improvement of cases may, perhaps, be judged from the following, though the numbers are small, and the resulting percentages inaccurate:—

Complication.	Improved.	Not Improved.	Total.	% Improved.
Pyogenic Infection,	4	8	12	33
Abscess Formation,	7	2	9	78

The result of treatment in relation to the site of the disease is represented in the following table:—

Site of Disease.	Improved.	Not Improved.	Total.	% Improved.
Knee,	12	2	14	86
Hip,	4	6	10	40
Spine,	4	3	7	57
Ankle,	3	1	4	75
Elbow,	...	1	1	...
Shoulder,	1	...	1	...
Os Calcis,	...	1	1	...
Femur,	...	1	1	..
Pubis,	1	...	1	...
Abdomen,	1	...	1	...
Multiple,	...	1	1	..
Total,	26	16	42	62

The types of lesion which seem to show most improvement are disease of the knee joint and ankle joint.

In the following table (1) results of treatment by "Osmoserin" in cases of hip-joint disease, disease of joint other than hip, and disease of the spine are compared with the results obtained by other treatment in the year 1926:—

	(1) % Improved.		(2) Average Time in Hospital.	
	Serum Treatment.	Other Treatment (1926).	Serum Treatment.	Other Treatment (1926).
Hip, - -	40	78	15½ mths.	20 mths.
Other Joints, -	80	83	18½ mths.	15½ mths.
Spine, - -	57	52	12½ mths.	17½ mths.

The periods of treatment (Table II) are sufficiently alike to permit of a rough comparison, and it is shown in Table I that results are similar in general. But the cases of disease of the hip treated by "Osmoserin" tend to show less than average improvement.

Blood Examination.—In nineteen cases the blood-cell changes were investigated. In six no abnormality of the blood was found. In thirteen there was a relative lymphocytosis. In only two cases was any change in the constituents of the blood observed during treatment. One showed a relative increase in polymorphonuclear elements; the other showed a relative increase in the number of lymphocytes. The condition of the blood could not be correlated in any way with results of treatment.

Summary.—(1) "Osmoserin" can be administered to patients without causing any marked subjective disturbance, either general or local. Objective effects consist of slight pyrexia, and in some cases skin rashes such as are commonly associated with the introduction of a foreign protein into the body. New lesions have occurred and abscesses have increased in size during treatment; but not in numbers greater than one would expect to find in cases not undergoing treatment by "Osmoserin."

(2) There is no discernible difference in the results obtained by the use of human and bovine types of serum. No skin rashes have occurred after injection of the human "Osmoserin."

(3) After 13½ months only one case treated by "Osmoserin" has been dismissed from the hospital improved. While many of the cases have undoubtedly improved, it cannot be said that they are healed or that they have improved more quickly than cases which have not been treated by means of "Osmoserin."

DENTAL TREATMENT.

During the year Dr. Hugh M'Kay, L.D.S., made 47 visits, and the dental work carried out is as follows:—

Fillings,	Amalgam, ...	130
	Cement, ...	38
Extractions with local anæsthetic, ...		500
Extractions with general anæsthetic, ...		80
Scaling, ...		500
Pulpitis cases, ...		9
Upper dentures, ...		1
Lower dentures.		1
Consultations.		250 (Approx.)

Laboratory.—Examinations have been carried out as follows:—

Sputum for tubercle bacillus, ...	454
Throat cultures for diphtheria, ...	452
Urines (microscopical investigations, cultures, &c.),	94
Cultures from sinuses, ...	15
Miscellaneous, ...	49

EDUCATION.

The Education Authority of Glasgow has continued to provide four teachers, who have carried on the work of teaching ambulant and bed children along the usual lines. The average number of children on the rolls was 126, and the average daily number receiving tuition 114.

Table A.—During the year 27 non-tuberculous patients were treated, and the following statement indicates the nature of their disease:—

Disease.	Number of Cases.
Retroperitoneal sarcoma, ...	1
Cystic papilloma of ovary, ...	1
Congenital syphilis, ...	1
Non-tubercular cervical adenitis, ...	1
Subphrenic abscess, ...	1
Kyphosis of spine (non-tubercular), ...	1
Rickets (spinal), ...	1
Congenital dislocation of hip joint, ...	1
No abnormality found (under observation for tuberculous disease of hip joint), ...	1
Lipoma, ...	1
Malnutrition, ...	4
No abnormality found (under observation for tuberculous peritonitis), ...	1
Locomotor ataxia (Charcot's joints), ...	1
Disseminated sclerosis, ...	1
Lymphosarcoma of mediastinum, ...	1
Non-tubercular colitis, ...	1
Rickets, ...	1
Abscess of groin (non-tubercular), ...	1
Tertiary syphilis, ...	1
Chronic osteomylitis of tibia, ...	1
Congenital shortening of femur, ...	1
Chronic osteomylitis of femur, ...	1
Lymphosarcoma of neck, ...	2

The following table indicates the state of nutrition of the various groups of tubercular patients on admission :—

Disease.	Good.	Fair.	Poor.	Total.
Pulmonary Tuberculosis—				
Early,	4	10	5	19
Intermediate,	9	28	20	57
Advanced,	7	27	76	110
Non-Tuberculous.	7	8	12	27
Other Forms of Tuberculosis—				
Spine,	13	32	18	63
Glands,	10	8	8	26
Bones other than spine,	15	8	6	29
Hip joint,	10	22	6	38
Joints other than hip,	18	28	11	57
Abdomen,	11	22	38	71
Multiple,	11	18	27	56
Genito-Urinary and miscellaneous,	8	13	6	27
Totals,	123	224	233	580

JOHN WATSON,
Medical Superintendent.

April, 1928.

ROBROYSTON HOSPITAL.—TABLE SHOWING CASES DISMISSED AND DEATHS DURING THE YEAR 1927, AND THE AVERAGE RESIDENCE.

Disease.	Number of Cases Dismissed.	Number of Deaths.	Average Residence.							Average.
			-30	-50	-100	-150 Days.	-200	-300	+300	
Pulmonary Tuberculosis—										
Early,	19	...	...	2	7	4	3	2	1	146
Intermediate,	55	2	5	1	13	8	7	11	12	216
Advanced,	54	56	25	18	18	11	6	12	20	168
Diagnosis not confirmed,	9	1	3	1	2	2	2	...	...	77
Other Forms of Tuberculosis—										
Glands,	26	...	1	2	6	1	5	4	7	217
Spine,	49	14	6	1	5	3	6	3	39	658
Bones other than spine,	29	...	...	1	4	4	4	4	12	363
Hip Joint,	34	4	...	1	2	...	1	5	29	545
Joints other than hip,	52	5	3	4	3	8	6	8	25	398
Abdomen,	60	11	8	6	11	12	8	15	11	182
Multiple.	44	12	1	...	5	1	3	8	38	683
Genito-Urinary,	11	4	1	2	3	1	3	2	3	205
Miscellaneous,	12	...	...	...	1	3	3	1	4	302
Diagnosis not confirmed,	15	2	5	2	7	1	2	...	...	66
Total,	469	111	58	41	87	59	59	75	201	335
	580									

ROBROYSTON HOSPITAL.—PULMONARY TUBERCULOSIS.—TABLE SHOWING STAGE OF DISEASE, AGE, RESULT OF TREATMENT, &C., OF PATIENTS DISMISSED DURING 1927.

Ages.	Not Classified Further.				Result of Treatment.												Complications.				Condition on or Reason for Dismissal.										Result of Sputum Examination.									
	Less than 4 Weeks' Residence.		Deaths among these.		Arrested.		Much Improved.		Improved.		Not Improved.		Died.		Total.		Tubercular.		Other.		Fit for Work or School.		Unfit.		Left Own Accord or Removed by Parents.		Other Reasons		Transferred to Other Institutions		+Admitted. +Dismissed.		+Admitted. −Dismissed.		−Admitted. +Dismissed.		−Admitted. −Dismissed.		No Sputum.	
Early Cases—	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
− 5,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
− 10,	...	...	...	...	2	1	...	...	...	...	...	...	...	...	2	1	1	...	...	...	...	1	...	...	...	...	...	...	2	...	...	...	...	...	...	...	2	...	...	1
− 15,	...	...	...	...	2	2	...	1	1	1	...	...	...	...	3	4	1	1	...	...	1	1	...	...	1	2	...	...	1	1	...	...	...	...	...	...	2	...	1	4
− 25,	...	...	...	...	...	2	...	...	1	1	...	...	...	...	1	3	1	...	...	2	...	2	...	...	1	1	...	...	...	...	...	...	...	...	...	...	1	3	...	...
− 35,	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...
− 45,	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...
+ 45,	...	...	...	...	...	...	1	...	...	2	...	...	...	...	1	2	...	...	1	...	...	...	...	...	...	2	...	...	1	...	1	1	...	...	...	...	...	1	...	...
Total,	...	...	...	...	4	5	1	1	3	5	...	...	...	...	8	11	4	2	1	2	1	4	...	...	2	6	1	...	4	1	1	1	...	...	...	...	6	5	1	5
Intermediate Cases—																																								
− 5,	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
− 10,	1	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...
− 15,	...	...	...	...	...	...	1	2	...	1	...	...	...	...	1	3	1	...	...	2	...	1	...	...	...	...	1	1	...	1	...	...	...	1	...	...	...	2	1	...
− 25,	...	1	...	...	...	...	3	8	3	2	2	1	...	1	8	12	4	2	...	2	...	3	...	1	5	5	1	2	2	...	6	3	...	2	1	...	1	7	...	...
− 35,	...	2	...	...	...	...	2	2	3	2	1	2	...	...	6	6	2	1	2	1	1	1	2	...	3	4	...	1	...	...	1	2	...	2	...	...	5	2	...	...
− 45,	...	...	...	...	...	...	...	...	3	1	...	...	...	...	3	1	1	...	1	...	1	...	...	...	1	1	...	...	1	...	1	...	1	...	...	...	1	1	...	...
+ 45,	...	1	...	1	1	1	2	1	4	1	...	...	...	...	7	3	2	...	2	...	3	1	1	...	2	1	1	1	...	...	2	...	1	...	...	...	3	3	1	...
Total,	1	4	...	1	1	1	9	13	13	7	4	3	...	1	27	25	11	3	5	5	5	6	3	1	12	11	4	5	3	1	11	5	2	5	1	...	11	15	2	...
Advanced Cases—																																								
− 5,	1	1	1	1	...	...	...	...	...	...	...	...	...	1	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
− 10,	...	...	...	...	...	...	...	1	...	2	...	...	...	1	...	4	...	1	...	1	...	...	...	...	...	1	...	2	...	...	...	1	...	1	...	...	...	2	...	...
− 15,	...	...	...	...	...	...	...	1	...	...	...	1	1	1	1	3	...	1	...	...	...	...	...	...	...	2	...	...	...	...	1	2	...	...	...	...	...	1	...	...
− 25,	4	3	3	3	...	...	...	3	1	2	2	7	3	11	6	23	5	12	...	1	...	...	...	...	3	7	...	3	...	2	6	17	...	1	...	2	...	3	...	...
− 35,	3	9	3	5	...	...	1	2	...	4	6	5	3	8	10	19	9	9	...	2	...	...	2	...	4	9	...	1	1	1	8	12	...	...	...	3	2	4	...	...
− 45,	...	...	...	...	...	...	1	1	1	...	...	1	3	1	5	3	5	1	...	1	...	...	...	...	2	2	...	...	...	...	4	3	...	...	...	...	1	...	...	...
+ 45,	1	1	1	1	...	...	...	...	3	1	2	1	4	1	9	3	8	2	1	1	...	...	1	...	4	2	...	...	...	...	5	2	1	...	1	...	2	1	...	...
Total,	9	14	8	10	...	...	2	8	5	9	10	15	14	24	31	56	27	27	1	6	...	...	3	...	13	23	...	6	1	3	24	38	1	2	1	5	5	11	...	...

SURGICAL CASES: TABLE No. 1. GLANDS.

Age Groups	Condition on Admission			Total	Treatment				Total	Condition on Dismissal				Total	Dismissed					Total	Complications	
	Early	Intermediate	Late		Operation	Aspiration	Tuberculin	Other		Well	Improved	Healed	Discharging		Fit	Unfit	At own or Parents' request	For Other Reasons	Died		Tubercular	Other
– 1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 2	...	...	1	1	...	...	...	1	1	...	...	1	...	1	1	...	...	...	...	1	...	1
– 3	...	...	1	1	1	...	...	...	1	...	...	1	...	1	1	...	...	...	...	1	...	1
– 5	...	...	3	3	1	1	...	1	3	...	1	2	...	3	2	...	...	1	...	3	2	1
–10	1	2	1	4	...	2	...	2	4	...	...	4	...	4	...	1	1	2	...	4	2	1
–15	...	1	6	7	1	...	...	6	7	4	1	2	...	7	6	...	...	1	...	7	...	2
–20	...	...	5	5	...	1	...	4	5	1	2	2	...	5	4	...	...	1	...	5	2	...
–25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
–35	1	1	3	5	2	...	...	3	5	3	1	...	1	5	4	1	...	...	...	5	2	...
–45	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...
45+	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	2	4	20	26	5	4	...	17	26	8	5	12	1	26	18	2	1	5	...	26	8	6

SURGICAL CASES: TABLE No. 2. SPINE.

Age Groups	CONDITION ON ADMISSION					Deformity on Admission	TREATMENT					Total	Deformity on Dismissal or Death	CONDITION ON DISMISSAL			Total	DISMISSED					Total	COMPLICATIONS	
	Abscess	Sinus	Abscess and Sinus	No Abscess or Sinus	Total		Operation	Aspiration	Aspiration and Injection	Appliances	Other			Healed, including Arrested	Improved	Not Improved		Fit	Unfit	At Own or Parents' Request	For other Reasons	Died		Tubercular	Other
– 2	...	...	...	1	1	1	...	...	...	1	...	1	1	...	1	...	1	...	...	...	1	...	1	...	...
– 3	...	...	...	3	3	3	...	...	...	2	1	3	3	1	2	...	3	1	...	...	2	...	3	1	1
– 4	...	...	...	8	8	7	...	...	...	8	...	8	7	4		1	6	3	...	1	2	2	8	3	3
– 5	3	...	...	4	7	6	...	2	...	4	1	7	6	5	..	1	6	5	...	1	...	1	7	2	2
– 10	7	2	...	9	18	17	...	5	2	10	1	18	17	12	1	3	16	11	...	2	3	2	18	4	7
– 15	1	...	...	4	5	4	...	1	...	3	1	5	4	5	...	...	5	3	...	...	2	...	5	1	1
– 20	4	...	...	1	5	3	...	2	1	2	...	5	2	1	1	2	4	1	...	3	...	1	5	3	1
– 25	1	1	...	2	4	3	...	2	...	2	...	4	3	...	...	3	3	...	...	2	1	1	4	...	1
– 35	3	...	1	3	7	7	1	3	...	3	...	7	7	1	...	1	2	1	...	1	...	5	7	2	3
– 45	...	1	...	1	2	1	...	...	...	2	...	2	1	...	...	1	1	...	...	1	...	1	2	1	...
45 +	1	. .	...	2	3	1	1	...	...	2	...	3	1	1	1	...	2	...	...	2	...	1	3	...	2
Total	20	4	1	38	63	53	2	15	3	39	4	63	53	30	7	12	49	25	...	13	11	14	63	17	21

SURGICAL CASES: TABLE No. 3. BONES other than Spinal.

Age Groups	CONDITION ON ADMISSION					Deformity on Admission	TREATMENT					Total	Deformity on Dismissal	CONDITION ON DISMISSAL			Total	DISMISSED					Total	COMPLICATIONS	
	Abscess	Sinus	Ulceration	No Abscess, Sinus or Ulceration	Total		Operation	Aspiration	Aspiration and Injection	Appliances	Other			Healed, including Arrested	Improved	Not Improved		Fit	Unfit	At Own or Parents' request	For other Reasons	Died		Tubercular	Other
– 1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 2	...	2	...	...	2	1	...	...	...	...	2	2	1	2	...	...	2	2	...	...	...	...	2	1	...
– 3	...	3	...	...	3	3	1	...	...	1	1	3	2	3	...	...	3	3	...	...	...	...	3	...	2
– 4	1	1	...	...	2	2	1	...	1	...	...	2	2	2	...	...	2	2	...	...	...	...	2	...	...
– 5	...	2	...	1	3	2	...	...	...	1	2	3	1	3	...	...	3	3	...	...	...	...	3	...	...
– 10	1	1	...	...	2	1	1	...	1	...	...	2	...	2	...	...	2	2	...	...	...	...	2	...	...
– 15	2	4	...	1	7	3	1	1	...	1	4	7	2	7	...	...	7	7	...	...	...	...	7	3	1
– 20	1	1	...	...	2	...	...	1	...	...	1	2	...	2	...	...	2	2	...	...	...	...	2	...	1
– 25	1	3	...	...	4	2	1	1	1	...	1	4	1	3	...	1	4	2	...	1	1	...	4	2	...
– 35	1	1	...	...	2	...	...	1	...	...	1	2	...	2	...	...	2	2	...	...	...	...	2	...	...
– 45	...	1	...	...	1	...	...	...	1	...	...	1	...	1	...	...	1	1	...	...	...	...	1	...	...
45 +	...	1	...	...	1	1	...	...	...	...	1	1	1	...	1	...	1	...	...	1	...	...	1	...	1
Total	7	20	...	2	29	15	5	4	4	3	13	29	10	27	1	1	29	26	...	2	1	...	29	6	5

SURGICAL CASES: TABLE No. 4. HIP JOINT.

Age Groups	Condition on Admission				Deformity on Admission	Treatment					Total	Deformity on Dismissal		Condition on Dismissal			Total	Dismissed					Total	Complications	
	Abscess	Sinus	No Abscess or Sinus	Total		Operation	Aspiration	Injection	Appliances	Other		Improved	Not Improved	Healed, including Arrested	Improved	Not Improved		Fit	Unfit	At Own or Parents' Request	For other Reasons	Died		Tubercular	Other
– 2	1	...	1	2	1	...	1	...	1	...	2	1	...	1	1	...	2	1	...	...	1	...	2	...	...
– 3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 4	...	...	3	3	3	1	...	...	2	...	3	3	...	1	2	...	3	1	...	...	2	...	3	1	...
– 5	...	...	3	3	3	...	...	...	3	...	3	3	...	3	...	...	3	2	...	1	...	...	3	...	1
– 10	...	1	9	10	10	1	...	...	9	...	10	9	1	8	1	...	9	6	...	...	3	1	10	...	4
– 15	2	...	5	7	6	...	1	...	6	...	7	4	2	5	...	...	5	3	...	...	2	2	7	...	2
– 20	...	3	2	5	4	1	...	...	3	1	5	4	...	3	...	2	5	3	...	1	1	...	5	...	2
– 25	...	2	1	3	3	...	...	...	3	...	3	1	2	1	1	1	3	...	...	2	1	...	3	...	3
– 35	...	2	1	3	3	1	...	...	1	1	3	1	2	1	1	...	2	1	...	1	...	1	3	...	1
– 45	...	1	...	1	1	...	...	1	...	...	1	...	1	...	...	1	1	...	...	1	...	...	1	...	1
45 +	...	1	...	1	1	...	...	1	...	...	1	1	...	...	1	...	1	...	...	1	..	...	1	...	...
Total	3	10	25	38	35	4	2	2	28	2	38	27	8	23	7	4	34	17	...	7	10	4	38	1	14

SURGICAL CASES: TABLE NO. 5. JOINTS other than Hip.

Age Groups	Condition on Admission				Deformity on Admission	Treatment					Total	Deformity on Dismissal		Condition on Dismissal			Total	Dismissed					Total	Complications	
	Abscess	Sinus	No Abscess or Sinus	Total		Operation	Aspiration	Injection	Appliances	Other		Improved	Not Improved	Healed, including Arrested	Improved	Not Improved		Fit	Unfit	At Own or Parents' request	For other Reasons	Died		Tubercular	Other
– 1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...
– 2	...	1	1	2	2	...	...	...	2	...	2	2	...	1	...	..	1	1	...	...	...	1	2	...	1
– 3	1	1	3	5	4	...	1	1	...	3	5	4	...	5	...	...	5	4	...	1	...	...	5	3	...
– 4	...	...	2	2	1	...	...	...	2	...	2	1	...	1	1	...	2	1	...	1	...	.	2	...	...
– 5	3	2	2	7	6	...	3	...	3	1	7	6	...	7	...	...	7	7	...	...	...	..	7	..	1
–10	...	2	6	8	7	1	...	...	4	3	8	7	...	5	3	...	8	5	...	1	2	..	8	1	1
–15	...	5	5	10	8	1	1	...	5	3	10	8	...	9	1	...	10	8	...	..	2	...	10	...	2
–20	2	1	5	8	5	1	1	...	2	4	8	4	1	5	3	...	8	4	...	2	2	...	8	1	...
–25	1	3	1	5	2	1	2	1	...	1	5	2	...	3	1	...	4	2	...	2	...	1	5	...	1
–35	1	2	3	6	3	1	1	...	1	3	6	2	1	4	1	...	5	4	...	1	...	1	6	1	2
35+	1	3	...	4	4	2	...	...	1	1	4	...	4	2	...	...	2	1	...	...	1	2	4	1	1
Total	9	20	28	57	42	7	9	2	20	19	57	36	6	42	10	...	52	37	...	8	7	5	57	7	9

SURGICAL CASES: TABLE No. 6. ABDOMINAL TUBERCULOSIS.

Age Groups	Nature of Disease			Total	Condition on Admission							Total	Treatment		Total	Condition on Dismissal				Total	Dismissed					Total	Complications	
	Acute	Sub-acute	Chronic		Distension	Gland Masses	Distension and Glands	Distension and Fluid	Diarrhœa	Obstruction	Other		Operation	General, including Heliotherapy		Arrested	Much Improved	Improved	Not Improved		Fit	Unfit	At Own or Parents' request	For Other Reasons	Died		Tubercular	Other
– 1	...	...	1	1	1	...	...	...	...	...	...	1	...	1	1	1	...	...	...	1	1	...	...	...	...	1	...	...
– 2	2	1	1	4	3	...	..	1	...	...	...	4	...	4	4	2	...	...	...	2	2	...	...	...	2	4	...	2
– 3	...	1	6	7	3	...	1	1	1	...	1	7	...	7	7	5	...	2	...	7	5	...	2	...	...	7	2	3
– 4	1	2	3	6	...	...	2	1	...	...	3	6	...	6	6	4	...	...	2	6	4	...	2	...	...	6	1	1
– 5	1	1	3	5	2	...	...	2	...	...	1	5	1	4	5	2	1	1	...	4	3	...	1	...	1	5	...	2
– 10	1	3	8	12	5	...	...	4	...	...	3	12	2	10	12	6	2	2	1	11	6	...	2	3	1	12	1	2
– 15	...	3	19	22	5	8	2	2	2	...	3	22	...	22	22	13	4	2	1	20	16	...	3	1	2	22	4	3
– 20	3	3	3	9	...	2	...	5	...	1	1	9	1	8	9	3	...	1	1	5	3	1	1	...	4	9	2	2
– 25	1	1	2	4	...	1	1	1	...	...	1	4	...	4	4	1	...	1	1	3	1	...	1	1	1	4	1	1
– 35	...	...	1	1	...	...	...	...	...	...	1	1	...	1	1	...	...	1	...	1	...	...	1	...	...	1	...	...
– 45	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
45 +	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	9	15	47	71	19	11	6	17	3	1	14	71	4	67	71	37	7	10	6	60	41	1	13	5	11	71	11	16

Surgical Cases: Table No. 7. MULTIPLE LESIONS.

Age Groups	Site of Principal Lesion						Total	Condition on Admission					Total	Treatment				Total	Condition on Dismissal			Total	Dismissed					Total	Complications	
	Glands	Spine	Other Bones	Hip Joints	Other Joints	Abdomen		Sinus	Abscess	Sinus and Abscess	Ulceration	No Sinus, Abscess or Ulcer		Operation	Aspiration and Injection	Appliances	Other		Healed, including Arrested	Improved	Not Improved		Fit	Unfit	At Own or Parents' request	For Other Reasons	Died		Tubercular	Other
– 1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 2	...	...	3	...	3	...	6	4	2	...	...	...	6	...	2	...	4	6	5	...	...	5	5	..	...	...	1	6	2	2
– 3	...	...	1	...	...	...	1	1	...	...	...	...	1	...	...	...	1	1	1	...	...	1	...	...	...	1	...	1	...	...
– 4	...	...	1	...	1	...	2	1	1	...	...	...	2	1	...	1	...	2	2	...	...	2	2	..	...	...	...	2	1	...
– 5	...	2	2	1	...	...	5	4	...	...	...	1	5	1	2	1	1	5	3	1	1	5	3	...	...	2	...	5	2	2
– 10	1	2	...	...	2	1	6	4	1	...	...	1	6	...	1	...	5	6	4	1	...	5	3	...	...	2	1	6	4	...
– 15	1	4	2	2	7	...	16	11	3	...	...	2	16	3	3	1	9	16	6	1	4	11	6	...	5	...	5	16	14	1
– 20	2	1	3	...	1	1	8	8	...	...	...	...	8	2	1	...	5	8	4	1	2	7	4	...	3	..	1	8	4	...
– 25	...	1	...	...	2	...	3	2	...	...	...	1	3	...	...	...	3	3	2	...	..	2	2	...	...	...	1	3	3	...
– 35	...	2	...	...	2	...	4	3	1	...	...	...	4	1	1	...	2	4	...	1	2	3	...	...	3	...	1	4	3	...
– 45	...	1	...	...	..	...	1	1	...	...	...	...	1	...	...	...	1	1	...	...	...	...	...	...	...	...	1	1	1	...
45 +	...	1	2	...	1	...	4	3	1	...	...	...	4	1	1	...	2	4	...	1	2	3	...	...	3	...	1	4	4	...
Total	4	14	14	3	19	2	56	42	9	...	...	5	56	9	11	3	33	56	27	6	11	44	25	...	14	5	12	56	38	5

SURGICAL CASES: TABLE No. 8. GENITO-URINARY and MISCELLANEOUS.

Age Groups	LOCALISATION OF DISEASE			Total	TREATMENT			Total	CONDITION ON DISMISSAL			Total	DISMISSED					Total	COMPLICATIONS	
	Genito-Urinary	Skin	Ear		Operation	Tuberculin	General		Arrested	Improved	Not Improved		Fit	Unfit	At Own or Parents' request	For other Reasons	Died		Tubercular	Other
– 1 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 2 ...	...	1	...	1	...	...	1	1	1	...	...	1	1	...	...	...	...	1	...	1
– 3 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 4 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 5 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 10 ...	2	3	...	5	1	...	4	5	3	2	...	5	3	...	...	2	...	5	...	1
– 15 ...	1	2	...	3	...	...	3	3	1	1	...	2	1	...	1	...	1	3	...	1
– 20 ...	4	3	...	7	3	...	4	7	5	2	...	7	6	...	...	1	...	7	...	...
– 25 ...	4	1	...	5	2	...	3	5	1	1	2	4	1	1	2	...	1	5	...	1
– 35 ...	3	1	...	4	...	...	4	4	2	...	2	4	2	...	...	2	...	4	...	1
– 45 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
45 + ...	2	...	...	2	...	...	2	2	...	...	...	...	...	...	...	...	2	2	...	...
Total ...	16	11	...	27	6	...	21	27	13	6	4	23	14	1	3	5	4	27	...	5

BELLEFIELD SANATORIUM, LANARK.

During the year 1927, 119 patients suffering from pulmonary tuberculosis passed through Bellefield Sanatorium after having been treated for varying periods with varying results.

The numbers recommended for treatment continued throughout the year to be greater than the available number of beds, so that all possible accommodation was used to the utmost.

The majority of cases dealt with remained essentially of the intermediate and advanced types, *i.e.*, in which all the evidence pointed to the fact that the disease was well established and had been present for some considerable time. Too small a proportion of so-called early cases were received to give rise to the positive assertion that in any one the disease, as a result of treatment, was positively arrested. A large proportion of those treated, though having been to a degree reconstituted, must be considered as being potential hospital cases.

Some years of reasonable health may be enjoyed by a few, but to the majority the established disability must prove too great a handicap in the struggle to procure a livelihood. An undoubted vicious circle is established which is difficult to break in the life of the unfortunate sufferer from pulmonary tuberculosis.

Fourteen beds set aside for the treatment of children have been continuously in use with, on the whole, very satisfactory and gratifying results.

The kitchen previously in use was evacuated on the 25th of October, and temporary kitchen quarters, established in a new 24-bed pavilion, were taken over. The electrical cooking apparatus provided has, to-date, proved adequate and entirely efficient.

On the 3rd November the maid's home was evacuated, accommodation being provided in the recently erected nurses' home. The entire residential block was evacuated on the 11th November, accommodation being found for nurses and administration staff in the new nurses' home.

On the 23rd November the patients were transferred from existing wards and accommodated in the recently constructed 36-bed pavilion, and in part—14 beds—of the new 24-bed pavilion; 50 beds becoming available, as against 48 beds previously.

Accommodation for 36 beds was necessarily sacrificed in order to provide temporary kitchen quarters, dining room for patients, and dining room and sitting room accommodation for nursing and maid staff.

It is hoped that, in due course, as the work of reconstruction proceeds, all available ward space will come to be used for the purpose for which it was provided.

Much difficulty has been experienced, particularly during the latter months of the year, in procuring satisfactory nursing and maid staff. The working of the Sanatorium has consequently been, at times, somewhat embarrassed, but, it is hoped, has been carried out in a reasonably satisfactory manner, and without detriment to the welfare of the patients.

No alteration in method of treatment of patients was adopted during the year; established general principles being accepted as most likely to provide the greatest possibility of improvement in the condition of patients.

The lay-out of the grounds, contiguous to new pavilions, has been carried out in a highly efficient and expeditious manner, and may be considered to be completely satisfactory.

The poultry farm and garden continued to meet the requirements of the Institution in the matter of supply of fowls, eggs, and vegetables. The question of extension of existing schemes falls to be considered in view of future increased requirements.

The standard of health enjoyed by the staff throughout the year has been satisfactory. The required tables are submitted herewith.

A. YOUNG,
Medical Superintendent.

April, 1928.

BELLEFIELD SANATORIUM.—Tuberculosis.—Table Showing Stage of Disease, Age, Result of Treatment. &c., of Patients Dismissed during Year 1927.

	Result of Treatment						Work or School		Reasons for Dismissal			Result of Sputum Examination					Complications	
Age Group	Arrested	Much Improved	Improved	Not Improved	Died	Less than 4 weeks	Fit	Unfit	Own accord	Other reasons	Transferred	Admitted + Discharged +	Admitted + Discharged -	Admitted - Discharged -	Admitted - Discharged +	No Spit	Tubercular.	Other
Early Cases—																		
– 5	...	...	...	1	...	1	...	1	1	...	...	...	...	...	...	1	...	...
– 10	...	3	1	...	...	...	3	1	3	...	1	...	...	...	...	4	...	...
– 15	...	3	2	...	...	...	5	...	3	2	...	...	...	1	1	3	...	...
– 20	...	1	2	...	...	...	2	1	3	...	...	...	...	2	...	1	...	...
– 25	...	4	1	...	...	...	5	...	1	4	...	...	...	1	...	4	...	...
– 35	...	2	2	...	...	...	4	...	3	1	...	...	...	4	...	...	...	..
Totals,	...	13	8	1	...	1	19	3	14	7	1	...	...	8	1	13	...	...
Intermediate Cases—																		
– 15	...	2	3	...	...	...	1	4	4	1	...	1	2	1	...	1	...	...
– 20	...	1	7	4	...	1	5	7	5	6	1	2	3	2	...	5	...	...
– 25	...	2	9	2	...	...	11	2	6	6	1	4	6	...	1	2	...	...
– 35	...	10	18	...	...	...	28	...	11	17	...	5	7	8	...	8	...	...
– 45	...	4	7	1	...	...	9	3	2	9	1	2	4	4	...	2	...	...
– 55	...	2	2	...	...	...	4	...	...	4	...	...	2	2	...	...	...	...
– 65	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals,	...	21	46	7	...	1	58	16	28	43	3	14	24	17	1	18	...	...
Advanced Cases—																		
– 20	...	3	...	3	...	...	...	6	...	3	3	4	2	...	...	...	...	...
– 25	...	...	1	3	...	...	...	4	2	1	1	3	...	1	...	...	...	...
– 35	...	1	1	5	...	...	...	7	2	2	3	3	2	2	...	...	...	...
– 45	...	...	1	3	...	...	..	4	1	...	3	4	...	...	...	...	...	...
– 55	...	...	1	...	...	...	...	1	1	...	...	...	...	1	...	...	...	...
– 65	...	...	1	...	...	...	...	1	...	...	1	1	...	...	...	...	...	...
Totals,	...	4	5	14	...	...	...	23	6	6	11	15	4	4	...	...	...	...

BELLEFIELD SANATORIUM.—YEAR 1927.—TABLE SHOWING CASES DISMISSED AND DIED, WITH AVERAGE RESIDENCE.

Class.	Number Dismissed.	Number of Deaths.	Average Residence—Days.						
			−30	−50	−100	−150	−200	−300	+300
Early,	22	...	1	...	5	8	3	3	2
Intermediate,	74	...	2	2	11	26	22	9	2
Advanced,	23	...	2	...	2	6	5	4	4
Totals,	119	...	5	2	18	40	30	16	8

TABLE SHOWING INCIDENCE IN AGE PERIODS.

Age Group.	Early.	Intermediate.	Advanced.	Totals.
− 5	1	...	...	1
−10	4	...	...	4
−15	5	5	...	10
−20	3	12	6	21
−25	5	13	4	22
−35	4	28	7	39
−45	...	12	4	16
−55	...	4	1	5
−65	...	...	1	1
Totals,	22	74	23	119